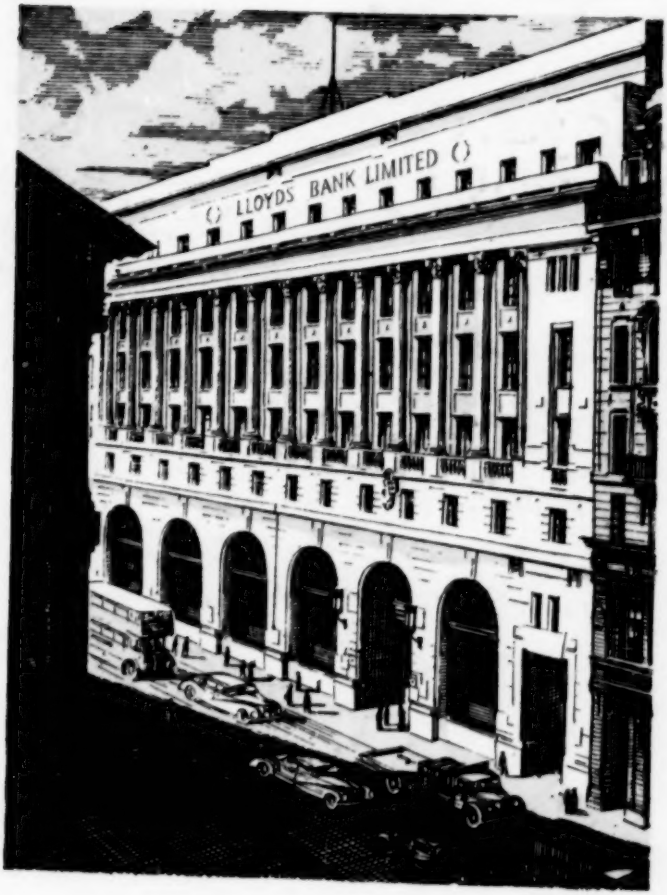

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The Bank is not necessarily in agreement with the views expressed in articles appearing in this Review. They are published in order to stimulate free discussion and full inquiry.

The Pace of Soviet Economic Development

By A. Nove

IT has been the comfortable belief of many thinking people in the West that the U.S.S.R., while certainly a military power worthy of respect, is not a serious economic competitor, that she is generations behind the more developed Western countries. The occasional appearance in the press of figures suggestive of impressive achievement did little to disturb the general air of complacency. It was thought that the figures were exaggerated, that the goods were probably defective anyway, or that the whole economy was more or less exclusively geared to arms production. The inefficiency of the economy was taken for granted. Such comforting thoughts were rudely disturbed by Peter Wiles's speech at the Milan Congress for Cultural Freedom last year. Wiles's case was not only that the U.S.S.R. was advancing extremely rapidly—far more rapidly than the Western world—but also that the Soviet economy was a peculiarly effective instrument for maximizing growth.

His views are in certain respects open to question, but his basic thesis was hardly a surprise to most serious students of the Soviet economy in Western countries. However, the work of these students has failed to penetrate far into the consciousness of informed public opinion, and so Wiles had anything but a calm reception. Some, indeed, considered his arguments in some way " pro-Soviet," as if the assertion that a given volume of goods is being produced is a political opinion. Others were dismayed by the implications of the pace of Soviet economic developments, but found some comfort in Colin Clark's counter-arguments, which seemed to contradict Wiles's views. The object of the present paper is to consider the evidence. How rapid has been the pace of Soviet economic growth? How far has it been facilitated, or hindered, by the Soviet system? At what pace can we expect expansion to proceed in the future?

Mr. Nove is the author of numerous articles on the Soviet economy and visited the U.S.S.R. with the British agricultural delegation in 1955.

STATISTICAL DIGRESSION

I make no apology for starting with a discussion of apparent technicalities. Economic progress can only be measured by combining a large number of different figures into aggregate indices, and this at once raises two vital questions. First, are the figures published in the U.S.S.R. reasonably reliable? Secondly, on what basis and according to what principles should we measure growth?

(*a*) *Soviet Statistics*

First, then, a few words about the reliability of Soviet statistics. Some hold that the Soviet authorities just use statistics as a propaganda weapon and that we must consequently disbelieve them. If this be the case, then most research on the Russian economy is waste of time, since it consists in analysing false data. However, no serious scholar holds so extreme a view. Most would agree that it is not the practice of Soviet publicists to invent for purposes of deception. Thus, if it is declared that 200 million pairs of socks are produced, then it is reasonable to assume that this is the figure available to the authorities in Moscow. By selective suppression, indeed, a false impression can be created without actually telling any lies and the numerous gaps in statistical series are a serious handicap. Nevertheless, if it happens to be inconvenient to publish a figure, the normal course of action is to publish nothing, not to announce a falsehood.

To this there is one prominent exception: harvest statistics in the period 1933–53 were in varying degrees distorted by the inclusion of harvest losses or even unharvested crops (" biological yield "). Since 1953, harvest statistics have been based on barn yield, but no figures in quantity terms have been published, no doubt because they would be embarrassingly below the pre-1953 series, which had been inflated by the inclusion of losses.

But do the central authorities receive accurate information from their subordinates? They might *think* that 200 million pairs of socks are produced, whereas perhaps there are only 160 million pairs, the rest being the product of the imagination of bonus-seeking managers. This is quite a serious point, since large rewards await those who over-fulfil the plan, whereas the unsuccessful fear reprimands, demotion, and even, in " tough " years—worse. Falsification at local level can be substantial. Nevertheless, it is noteworthy that false returns are not always designed to exaggerate output: for example, socks might be

pilfered by the workers, just as pigs on farms are sometimes " written off " and are in fact consumed by the management or local officials. In any case, one could legitimately invoke at this point the " law of equal cheating " : over the economy as a whole, there is no reason to suppose that Soviet managers and their accountants falsify more in one year than in another, and so the *rate of growth* is unlikely to be exaggerated on that account. Indeed, it is arguable that with the improvement of the statistical administration, and the reduction in penalties for non-fulfilment of plans, there may even have been some improvement in the quality of reporting.

Much greater caution is necessary in handling any indices of *total* output published in the U.S.S.R. Any output or national income series with a pre-1950 base is almost bound to be highly exaggerated, for reasons too complex to discuss here. These distorted pre-1950 figures have never been corrected, and the distortion remains present in any comparison currently being made with, for instance, 1940, 1928 or 1913. Generalizations about the real incomes of workers or peasants range from the merely doubtful to the fantastic ; thus it is repeatedly claimed that the real wages of workers are now six times what they were in 1913, which is pure nonsense. However, comparisons based on 1950 and later years contain relatively little in the way of exaggeration, though certain doubtful features of current series will be noted in due course.

(*b*) *Problems of measurement*

Economists are familiar with index number problems. Different price bases, different weights, produce different indices of growth, and no one of them is necessarily less " true " than another. All comparisons over time, or between countries, are affected by these inherent limitations, and particularly so when, as in the case of the U.S.S.R., change has been both rapid and uneven. Inevitably, therefore, the indices and comparisons cited in the present paper are, at best, rough approximations, and should be treated as such.

What is it we are attempting to measure? A common approach is to analyse the evolution of the national income, or national product per head. Many scholars have done this.[1] But the results can be misleading. The normal Western

[1] E.g. Colin Clark, Julius Wyler, Naum Jasny. Their results are summarized and commented on by G. Grossman in the symposium *Soviet Economic Growth* (ed. Bergson Row, Peterson, 1953), with stimulating ideas of his own.

concept of national income includes services; these are conventionally valued at the incomes of the persons providing them. Thus the value of medical, educational and administrative services is valued by the incomes of doctors, teachers, civil servants, and so on. But suppose that, *as in Russia in 1928–37*, the real incomes of the above classes fall. Then, by the orthodox method, the " product " of these persons falls also, which has a downward influence on product per head. But can one meaningfully say that the " product " of a Russian teacher has fallen because he can buy less for his money? Or, conversely, are Russian doctors " producing " more medical services in 1956 than in 1955 because their salaries have just been increased? Also it is almost impossible meaningfully to convert the value of such services into another currency.

For all these reasons, it is intended here to concentrate on *material production*, and in particular on *industry*, though with some attention also (separately) to *agriculture*, i.e. we shall be dealing mainly with the most advanced and rapidly-developing sector of the Soviet economy, but also one which is rightly attracting most interest, and on which most data are available.

Various estimates have been made of Russian industrial output, of which the most thorough and impressive is that of Professor Hodgman.[1] Using as weights the relative wages bills of the various industries in 1934, he came to the conclusion that the output of *large-scale* industry in 1937 was 371 per cent. that of 1928. This compares with an official claim of 551 per cent. Making all due allowances (for instance, for the decline in the number of *small* workshops) there seems little doubt that industrial output must at least have trebled over this period, giving a growth rate of over 13 per cent. per annum. With this conclusion, at least, Colin Clark would scarcely disagree, since his own index for the period was 311.[2]

This relates, however, to an early stage in an industrial revolution, to a dramatic upsurge from small beginnings. Though it is probably an all-time record, other developing countries have sometimes been almost in the same class; for example, Japan's industrial output nearly trebled in the period 1905–20. A more recent period, when the U.S.S.R. was already largely industrialized, would be more relevant to the future. We must therefore look at the Soviet record in 1950–55.

[1] *Soviet Industrial Production*, 1928–51 (Harvard, 1954). He describes the difficulties admirably. See also critique by F. Seton in *Soviet Studies* (Glasgow), October, 1955.

[2] *The Conditions of Economic Progress* (Macmillan, 2nd edition, 1951).

A glance at the output table[1] leaves one in no doubt that growth was very rapid indeed. The official Soviet index for 1955 is 185 (1950 = 100), and it seems to be free of the special distortions which destroy confidence in earlier Soviet indices. Can we then accept this one? Consideration of this point will end the "statistical digression," to the relief of some readers.

The Soviet index is very "gross" indeed; it is built up by adding together the values of goods produced by each and every industrial enterprise[2], excluding only indirect taxes on the final product, corrected for price changes. There is no effort to eliminate double-counting, so that, for instance, the value of the automobile industry includes the steel in the automobiles, which has already appeared in the output of the steel industry. Such a procedure has the effect of relatively overvaluing finished products of all kinds, and under-weighting basic materials. This would inject an upward bias into the index if finished products had a tendency to grow faster than the average. It is hard to prove that this is so. Thus some products which show the most rapid rate of growth (coal, electric power, oil) are under-weighted.

On balance, it seems reasonable to conclude that the exaggeration, if any, is small. The official figures show an annual growth rate in 1951–55 of just under 13 per cent.; it is unlikely to be below 12 per cent. per annum on a net basis. Unlike Colin Clark, I can see no reason why existing (or even 1937) Soviet price weights should cause any upward bias.

No such approximations are possible for agriculture, owing to almost complete lack of information on output of the basic farm products. In 1952, the gross output index was said to be 110 (1940 = 100), but nothing has been published which could explain how this official figure was calculated.

GROWTH AND EFFICIENCY IN THE SOVIET SYSTEM

It therefore seems that industrial output in the U.S.S.R. probably rose by upwards of 13 per cent. per annum in 1928–37 and perhaps 12 per cent. per annum in 1950–55. We will now seek to answer the following questions: How far were these achievements due to the Soviet system? How far were they due to "non-political" favourable circumstances? Can we expect such swift growth to continue? And if it does continue—the 1956–60 Plan envisages a continued growth of about 10½ per cent. per annum—what would this mean for us?

[1] See page 21. [2] Excluding building.

Wiles's assertion that the Soviet system is peculiarly efficient in fostering growth runs counter to the widely-held belief that the system is extremely inefficient. The following would seem to be the factors which bear on this complex and interesting problem.

In the first place, the Soviet political system facilitates the concentration of resources on capital goods, on investment. It is able to resist public pressure more effectively than any régime dependent on votes. No democratic government could have treated the peasants as they were treated in the decisive years of Soviet industrialization, yet the necessary accumulation was financed very largely at the peasants' expense. A more recent example is afforded by Stalin's policy in the period 1945–50: whereas in Western countries attention was concentrated on the rapid recovery of living standards, in the U.S.S.R. there was actually a *larger* proportion of resources allocated to heavy industry than in pre-war years, and this despite the appalling conditions of life at the war's end.

The result of this policy was the extremely rapid recovery of heavy industry. It is, in fact, a matter of pride among Soviet economists that the U.S.S.R. accumulates a higher proportion of its national income than any Western country. It can hardly be denied that the burden of investment and of other non-consumption expenditures (including arms) is heavier in the U.S.S.R. than in the West, or that the political system has, shall we say, helped the government to persuade the people to bear this burden.

Not only has the Soviet government been able to devote large sums to investment, but, by its power of control over investment policy, it has directed these sums to those sectors which contribute most to rapid expansion: to steel mills and machine-tool works, rather than to housing and shops. A given quantity of basic materials tends to support a larger amount of investment—and so of growth—in the U.S.S.R. than in the West: a smaller proportion of Soviet steel output goes into making private cars, less of its chemical industry into the making of medicines and so on. This, of course, is another aspect of the *priority of growth*, which dominates all Soviet planning. This also shows itself in the direction into heavy industry of more than its "fair" share of scarce materials, skilled labour and managerial ability, giving capital goods priority on the railways and so on.

The entire system is geared to expansion. Incentives, for

workers and managers alike, tend to reward success disproportionately, and success is measured by the over-fulfilment of plans, which themselves are always fixed higher and higher. As a matter of routine, all production plans seem to be made up on the principle : whatever it is, produce more of it. (Vodka seems to be the one significant exception to this rule, its consumption on a large scale being considered, somewhat oddly, as a survival of capitalism in the minds of men.) Financial results, while important, have always tended to be subordinate to the overriding aim of increasing production, and large losses have at various times been covered by substantial budgetary subsidies. The system of incentives has been used to encourage growth-inducing sectors ; thus, over-fulfilment bonuses and progressive piecework rates are much more " encouraging " in metallurgy and coal-mining than, say, in the furniture and clothing industries.

No resistance can be expected from trade unions, which in the U.S.S.R. are agencies for the carrying out of State labour policies, and which put all their strength behind schemes to increase output. No thought of restrictive practices would be countenanced by them, and in general there is a positive approach to labour-saving devices. Wiles is fond of stressing this, and he is right to do so. The general economic climate in the U.S.S.R. is expansionist, and one of the Communist Party's main functions in the Soviet State is to keep it that way, to combat the natural tendency towards inertia, to kick and report on the laggards. It may seem odd to think of that Party as a principal substitute for the spur of competition and the fear of bankruptcy, yet in an important sense it is so.

But, it may be objected, the word " arms " has hardly been mentioned yet. Is not a high proportion of Soviet producers' goods devoted to that most unproductive of activities, arms manufacture ? Undoubtedly, the U.S.S.R. does produce weapons of many kinds in impressive quantities, and it can be shown that in certain periods—1938–41 and 1950–53, for instance—arms formed a large part of the increase in industrial production. However, we should not exaggerate the significance of this point, which too often forms part of political wishful thinking ; the blindly hostile critic, once convinced that Soviet factories do produce a great deal, is apt to seek refuge in the emotionally satisfying generalization : " Ah, it is mainly arms." It is indeed possible, or even necessary, to view the whole growth of Soviet industrial might from the standpoint of

military *potential*. But the mere fact that industrial growth has continued at a very high level is proof that arms as such are not the dominant product of Soviet industry; guns do not produce anything. Indeed, a by-product of the creation of new industries of *potential* military significance has been a sharp increase in the output of some types of consumers' goods: the electronics and optical glass industries help to produce large quantities of TV sets and cameras. The Soviet economy is geared to growth first and foremost; if it were crudely and directly geared to arms manufacture our problem would be crudely and directly military, which is not the case.

Now we must turn to the disadvantages and defects of the Soviet system, viewed from the standpoint of growth and efficiency. These are, perhaps, somewhat more formidable than Wiles's presentation suggests.

The first defect to be considered is to a great extent inherent in the system. It is the consequence of centralization of decision. This centralization need not be explained in terms of the "power-hunger of the men in the Kremlin," as our journalists might put it. An economy of the Soviet type must of its nature show very strong tendencies towards concentrating decisions in Moscow. The result is bureaucratic inflexibility, sometimes replaced by sweeping and ill-considered changes when at last the penny drops. In consequence, despite the lack of trade secrets, it often takes even longer to implement new ideas in the U.S.S.R. than to start building a road in England. The evil consequences of centralization are magnified by the constant tendency to overstrain resources, which in its turn leads to a system of centralized allocation of a large number of key or scarce commodities. Enterprises find that they cannot rely on supplies of materials and components. Either they incur losses through stoppages of work, or the enterprise itself has to produce or procure the missing items at high cost; or perhaps the manager obtains the materials he needs by a mixture of cajolery, bribery and over-indenting, or retains unauthorized stocks.

However, the existing system of incentives to managers does not always have desirable results. Managerial bonuses and reputations depend on plan over-fulfilment. Suppose a new device or new design is proposed. It will generally require the approval of superior authority, which will grant it only if satisfied that output would increase. In other words, output plans would probably be revised upwards (or cost plans down-

wards). But new ideas generally involve a risk, and the Soviet system does lack reward for risk-bearing. The result is that the manager might well feel that it is not worth endangering his bonus or his reputation, and so the new project remains on the files. This defect is well known to the authorities, who are engaged in the task of enlarging the powers and responsibilities of managers, while retaining the necessary degree of centralization. Time alone will tell if a more satisfactory balance will be achieved.

Another of the manager's headaches arises from the number of checks and cross-checks to which he remains subject. Thus, the bank is under instructions to refuse to honour his cheques unless the payment is consistent with the given enterprise's plan or comes within narrowly-defined regulations. The department of the economic ministry within which the enterprise operates is always liable to interfere. Of at least equal importance is the Party. We have already noted that the Party plays a vital rôle in fighting inaction and complacency. But in doing so it interferes with managerial duties. The manager, who is generally a member of the Party himself, is liable to receive instructions from local and even factory officials of the Party, and it has certainly been Khrushchev's policy to increase rather than diminish the responsibility of Party officials for economic activity at all levels.

Nor is the labour position quite as favourable to growth and efficiency as might at first appear. Only on paper, and in the imaginations of some over-enthusiastic critics, are the workers docile recipients of whatever wage the State thinks good for them. (Forced labour is indeed a special case; yet, apart from making workers go to remote areas into which they would not transfer voluntarily, forced labour has probably been no gain economically, owing to its extreme inefficiency.) Despite the existence at certain periods of laws forbidding a change of occupation by "free" labour without permission, labour turnover has been sufficient to allow the law of supply and demand greatly to modify the rules and orders of authority. The "wages fund" is commonly overspent, piecework norms are fixed well below the levels prescribed in the regulations, unskilled workers are upgraded for no better reason than their refusal to stay unless moved from the lowest grade. Branches of industry which pay badly, or where conditions of work are harsher than elsewhere, tend to lose labour. In recent years this has been particularly true of the timber and building

industries. In conditions of over-full employment, the worker is in a powerful bargaining position even if strikes are illegal and the right of combination non-existent. The unrepresentative nature of Soviet " trade unions " has been noted by many, but the corollary to this is less obvious : it is that the unions have little influence over the behaviour of their members, who are well aware that the union is not " theirs." Hence the recurrent reports that " socialist competition " obligations undertaken by the unions on behalf of their members are formal in character and not acted upon by the workers.

Another and more complex defect of the system is associated with the absence of a rational price pattern. By " rational " is meant a system which enables those who make economic decisions at all levels to compare the costs and advantages of alternative schemes and methods. In part, its absence is due to the refusal to place any value on land or to charge interest on the bulk of capital investments, which tends to give an air of spurious profitability to capital-intensive projects located in big cities. But in any event a consistent price system has always been subordinated to other considerations. Thus Soviet politicians have always tried, in varying degrees, to make desirable activities look cheap. For instance, in 1955 the price of cement was reduced at a stroke by over 30 per cent., shortly after a decision was taken to use more cement and less bricks in building. Sudden changes are made, which upset relativities, and small adjustments are rare. The allocation of basic materials mitigates the practical consequences of the lack of order in the price system, but it remains an obstacle to rational planning decision.

Illogical price relationships are particularly noxious where one enterprise produces a number of different commodities or types. The classic example of this is a factory which makes nails. When the plan was established in *numbers*, only small nails were made ; so the basis of the plan was changed to weight, and then there were only *large* nails. If the plan is expressed in money, then only those which are cheapest to make will be produced, and probably all of the same size ; if each type of nail is to be separately specified in the plan, this would be a glaring case of bureaucratic over-centralization. If the price of nails reflected supply-and-demand conditions, of course, things would be different ; but this verges on heresy. Meanwhile, there are repeated appeals to the managers to provide a proper assortment of products.

No doubt some part of Soviet production includes avoidable waste. If, for example, the siting of an industry has been wrongly decided upon, consequent upon an irrational system of freight charges, more goods wagons and transport services are required. Of course, we must count them as part of the economic activity of the U.S.S.R., just as British railway passenger returns include the journey of the young man who went to meet his girl friend on the wrong day. In the last analysis there is a loss, avoidable waste, involved. But, just as we have no statistics of young men who get their appointments mixed, so we cannot even guess about *how much* Russian production is wasteful, though we can suspect it is substantial.

It is generally assumed that poor quality is a characteristic of Soviet production. This assertion has some truth in it, but needs to be carefully qualified. There is evidence that Soviet industry is capable of first-class precision workmanship, and also plenty of evidence of the contrary : of bathroom taps which do not run and textile dyes that do. One should beware of concluding that poor quality is an inherently "Soviet" characteristic. It would be wiser to bear in mind that these things are, at least in part, consequences of the sheer *pace* of Russia's industrial revolution. An industry staffed by half-trained ex-peasants is apt to produce a high proportion of spoiled work, under communism, fascism, feudalism or any other system known to man. With the passage of time, Russia has acquired a fairly large skilled-labour force, but there has not been enough of it to go round, and priority has been given to heavy industry. This, and the inevitable effect of a constant sellers' market, has certainly tended to depress the quality of consumers' goods and the standard (as well as the rate) of house building. Even so, this state of affairs cannot be assumed to last indefinitely, and the visitor who finds (as the author of these lines did) that door handles come off in hotels should not conclude that Soviet industry produces defective railway locomotives or machine tools. Door handles have no priority.

It is important not to be misled by the large number of criticisms of defects which appear often enough in the Soviet press. It is easy to catalogue these criticisms and derive from them a picture comforting for the complacent but fundamentally inaccurate. The system as a whole is not chaotic, even though examples of chaos can be properly cited ; it does work. The essential fact is that the U.S.S.R. is a vast country of contrasts, which has developed very unevenly, with the good and the bad

existing still side by side. One should also remember that inefficiencies in Western countries would be better known if the private affairs of firms were liable to be released to the press. In the U.S.S.R., the authorities use publicity in a carefully selective way. Hence an outburst of criticism directed at some sector is not necessarily proof that it is peculiarly defective, or that its efficiency has declined ; the reason may be a decision to launch a campaign to improve it, or possibly even a desire to discredit the minister in charge.

* * *

While the facts certainly tend to show that industrial growth benefited from the régime's policies, which were designed to maximize it, *agriculture* has remained in a much less satisfactory state, for reasons which will now be briefly examined.

In part, the relative stagnation of farm output has been yet another consequence of the overriding priority of heavy industry. Agriculture was heavily taxed, by having to sell a proportion of its output to the State at very low prices, while receiving inadequate equipment, little fertilizer, few skilled men. Moreover, the situation was complicated by ideological-political considerations. The individual peasant has been regarded as an undesirable phenomenon, and industrialization coincided with compulsory collectivization. The State has ever since had to interfere to preserve the collective against the threat of the resurgence of private interests, which remain in the shape of the peasant's little plot of land and his right to sell surpluses in the free market.

The State found itself pursuing a contradictory policy : on the one hand, it wished to persuade the peasants to work hard for the collectives ; on the other, by taking much of the produce of the collectives at very low prices, the State made such work unremunerative and the collectives heartily unpopular. Efficiency and yields have remained low, and efforts to improve matters by central direction added the further evil of bureaucratic over-centralization, a disease particularly harmful under the conditions natural to farming.

The Soviet system as such, while reasonably well adapted to coping with problems of large-scale factory production, had nothing significant to contribute to the solution of the many problems of farm management. Indeed, it contributed "headaches" peculiar to itself : thus, the collective farms neither own nor control the machinery which serves them,

this being held by State machine tractor stations, and there is plenty of evidence to show that this division of responsibility causes confusion and loss. To suggest the obvious way out, letting the collectives run their own machines, is heresy, for it would mean letting go a vital element of State control over peasants.

For all these reasons, Soviet agriculture in 1953 was relatively *further* behind advanced Western countries—in technique, productivity, yields—than, say, 25 years earlier. Apart from sugar-beet and cotton, there was very little progress to report even in absolute terms, and the *per capita* availability of animal products has never regained 1928 levels. It is true that agriculture had to recover from two disasters : collectivization, when peasants slaughtered the major part of the livestock population, and the war. It is also true that Soviet farming did manage to feed the growing towns with a slightly reduced rural labour force. One cannot, therefore, speak of complete failure. All the same, consumption standards and production efficiency alike remained deplorably low. A drive to improve matters is now in progress.

Two further negative features must be mentioned. The appallingly low standard of housing in the towns, reflected in most serious overcrowding, is notorious. Retail trade facilities have also been somewhat elementary, with queues and shortages fairly common even in quite normal years. This is connected with the strain on the transport system. With good roads still rare and lorries few, the overwhelming bulk of Russia's goods traffic is carried by rail. Yet there has been surprisingly little building of new lines : track mileage is only one-third that of the United States, although the volume of freight carried is larger. The absence of a professional trading class has been another factor contributing to poor distribution.

When all is said, the question remains : Is the Soviet system peculiarly suited to expansion ? On balance, surely, after giving due weight to the negative features, our answer must be " yes," even if the arguments put forward by Wiles in favour of this proposition are not wholly acceptable. Many of the defects are themselves due precisely to the speed of growth, to the concentration of limited resources into growth-inducing sectors.

OTHER FACTORS AFFECTING GROWTH

In the last few pages we have been considering the influence, for good or ill, of the Soviet *system* on the growth of the economy. However, it is also necessary to enumerate those features of the situation which, while independent of the political colouring of the Soviet régime, none the less had an important bearing on growth rates.

The first point, which needs to be briefly repeated, is simply the low starting point of the U.S.S.R. For example, Soviet output of cement in 1940 was over 300 per cent. of 1928 volume, but output in 1940 was still a third of U.S. production in 1913. This factor is of decreasing importance now that the U.S.S.R. is a major industrial power, but should not be overlooked. None the less, as has already been stated, Soviet industrial growth has been considerably more rapid than that of other countries in a comparable stage of industrialization.

Secondly, a most important factor has been the relative rural over-population of Russia. The transfer of labour from village to town was a clear gain to the economy, despite the inefficiency of most of this labour. Repeatedly, the labour productivity targets in industry were not reached, and production plans were fulfilled through the unplanned intake of men from the villages. Owing to a rate of natural increase high in relation to Western countries, this process was accompanied only by a surprisingly small diminution in the number of peasants.

The third point is a corollary of the second : the labour initially absorbed by industry was poor material, and there were big opportunities for improvements in productivity, as these recruits settled down, acquired elementary skills, became a working class instead of rootless ex-peasants. The resultant gains in productivity per head, though below optimistic expectations, were nevertheless substantial, and should continue.

The fourth point is frequently overlooked. The process of urbanization, when it takes place in a relatively primitive peasant economy, greatly increases the consumption of industrial goods and services. First, various formerly domestic processes find their way into industrial output statistics and influence the indices of the rate of growth. For instance, there was spectacular growth in the number of bakeries, meat-processing plant and much else besides, reflecting neither increased welfare nor increased consumption of these com-

modities, but simply urbanization. Then there is a marked increase in transport and other services required by the urban population: tramcars, laundries, a system of wholesale distribution of foodstuffs, etc. The process of urbanization calls for a much higher level of industrial production to sustain a given standard of consumer satisfaction. This is why, despite the grievously inadequate attention paid to consumer needs, the output of industrial consumers' goods has been rising by impressive percentages. It must be stressed that this is not a matter of statistical sleight-of-hand, nor is it in any way peculiar to Russia. All backward peasant countries experience the same thing when they industrialize. The relevant thing to bear in mind is that this factor has tended to expand measurable industrial growth and that the process tends to slow down with time.

A fifth factor has been the possibility of borrowing technical ideas from advanced countries. A large proportion of Russian machines and factory layouts are straight copies of Western models. This enabled the U.S.S.R. to make technical "leaps" impossible in countries where new ideas had first to be subject to trial and error. For example, the Soviet steel industry, virtually created in the last 25 years, could be based from the first on up-to-date German and American models, and so productivity per head in the steel industry compares very favourably with that in Western Europe.

Finally, there were and are ample supplies of most basic materials. Although inconvenient geographical location imposes a strain on transport, mineral deposits tend to be fairly easy to work. Coal and oil seem to be available in virtually unlimited quantities, iron ore is plentiful. Only certain non-ferrous metals constitute a bottleneck. To some extent, clearly, natural resources contribute to growth regardless of the political complexion of the rulers who make use of them. Thus the spectacular rise in production and national income recently recorded in Kuwait is not wholly due to the wisdom of its government.

FUTURE TRENDS AND PROSPECTS

We have discussed the influence of the Soviet system and of "non-political" factors on growth. We must now turn our eyes to the future and consider the following: Granted the declared desire of the Soviet leaders to reach and surpass the most advanced Western countries economically, what obstacles

stand in the way of success and what are the chances of overcoming them?

One factor, while no doubt desirable in itself, will tend to hold back *industrial* growth. This is the much greater proportion of national resources (and of industrial production) now being devoted to agriculture. Since 1953, ambitious expansion programmes have been absorbing heavy investments. The profit which the State draws from agriculture has been reduced by repeated increases in prices paid to producers, the last such increase having been announced as recently as February, 1956. The drive to provide modern equipment for agriculture may be measured by the fact that the number of grain combines to be delivered in 1956–60 significantly exceeds *all* the combines ever received by Soviet agriculture down to and including 1955. Few would doubt that some increases in production will result, despite the inefficiencies inherent in collectivized agriculture.

The sixth five-year-plan (1956–60) calls for an increase of 70 per cent. in gross output of the farms over 1955 levels, and for an even greater rise in output per peasant. This is probably fantasy, and 25 per cent. would be a worthy achievement. Meanwhile the very scale of the effort means diversion of resources away from *industrial* expansion, and calls (in the short run, at any rate) for more labour on the land. After a few years, however, movement from village to town should be resumed, since there is much waste and inefficiency in Soviet farming and, consequently, ample scope for economies in manpower. Indeed, one of the objects of the great drive to extend mechanization is precisely to release labour from the farms.

The war-time dip in the birth-rate is now affecting the labour intake but this was, of course, only temporary. There has been a spectacular fall in the death-rate, and in the five years 1951–55 the population is stated to have risen by 16·3 millions. On the other hand, working hours—raised from seven to eight in 1940—are now to be gradually reduced again, until the standard working week falls to forty-one hours.

The labour intake will also be reduced by the raising of the school-leaving age: within five years nearly all Russian children will be receiving full-time education to the age of seventeen. But while this will for a time reduce the numbers available, it must have a profound effect on the efficiency of labour. There are ambitious plans to expand the already

impressive output of specialists. Russia's educational progress is too pronounced to be explained away by comforting generalizations. While at first there were many instances of hasty half-training of technicians, present standards are high ; a Russian engineering degree, for example, demands higher qualifications than its British equivalent.

All this must surely have far-reaching consequences, and not only in raising the standards of skill. Thus, over-centralization of industrial administration may partly have been due to shortage of efficient subordinates ; the new generation of graduates may find much that is intolerable in a system largely designed for rule over ignoramuses. But the fact remains that, on balance, the annual intake of new labour into industry will tend to be somewhat slower than has been normal since 1928, and that this will of itself tend to slow down growth.

We must now turn to another " slowing " factor : this is the increasing pressure for improved living standards. We see this in the great agricultural drive, which, whatever its chances of success, is certainly *intended* to raise the output of foodstuffs. The doubling of the rate of house building in the sixth five-year-plan is also significant.

It is immaterial for our present purpose whether the Soviet leaders do these things willingly or not. They may wish to give their people the most that can be spared, or the least that will persuade them to work ; such fine distinctions can be left to philosophers. Social and economic pressures operate in the U.S.S.R., and only one totally blinded by the " totalitarian-state " generalization can deny it. Examples abound. For instance, efforts to persuade the peasants to produce more without adequate reward were repeatedly made, and as repeatedly failed ; to get results, Khrushchev must put more money into peasant pockets, whether he likes to do this or not. It follows that more goods must be produced for the peasants to buy. House building becomes a necessity to stimulate industrial recruitment, to avoid excessive labour turnover. Overtime rates in the building industry had to be improved (with effect from January, 1956), not necessarily for love of building workers but because of serious shortages of these workers. The progress of education will certainly stimulate a demand for higher standards, and nowhere more than in the villages, where amenities are generally poor in the extreme.

The Soviet government is thus being pushed all the time in the direction of devoting more resources to consumption,

and many of its own higher officials must themselves be wishing for more security and comfort, less rush, fewer campaigns. Progress may at times be slow; in 1955, indeed, Khrushchev practically brought it to a halt, apparently with the object of eliminating bottlenecks in heavy industry. But pressures will accumulate, and should have the gradual effect of reducing the disproportionate share of the national income devoted to growth-inducing sectors of the economy.

The logic of events will also require increasingly heavy investments in transport. The rate of railway building has in fact been greatly increased, but the problem of roads has yet to be properly tackled.

Within industry itself, it is evident that those sectors in which Russian technique is furthest behind the West, i.e. where borrowing of Western ideas is likely to be most fruitful, are furniture, footwear, pottery, textiles, etc., i.e. precisely those sectors which are not themselves growth-inducing. Also, of the output of capital goods, a larger proportion must be devoted to replacements, i.e. to making good depreciation; as the average age of Soviet enterprises rises, so too must more of investment be devoted to keeping the existing capital stock intact. The difference between gross and net investment increases. In addition, an increasing proportion of capital goods is likely to be exported, and these exports may be paid for mainly in consumers' goods or in raw materials for consumers' goods. Clearly, if the Russians send steel-making plant to China, and receive in exchange pig-bristles and soya beans, housewives in Moscow might see more and better brushes and more and worse sausages, but the steel mill will make producers' goods for China and not Russia. So far, international trade has been of little relative importance to the Soviet economy, but it may not remain so.

All this means that there are forces which will tend to reduce the " growth-effectiveness " of each unit of industrial output. This development may not at first lead to any decline in the tempo of investment, but rather to a change in the *direction* of investment, which will exercise a slow damping-down effect on growth. A larger proportion of capital goods will be devoted to re-equipping light industry, building new blocks of flats, delivering more tractors to agriculture, relatively less to making " producers' goods to be used for the production of more producers' goods".

Lastly, one must mention one very important question-mark: as the U.S.S.R. climbs to higher economic levels, the

need for greater efficiency and flexibility in economic administration becomes increasingly apparent. The Soviet authorities are well aware of the problem, which has been repeatedly discussed at conferences and in the press. Various remedies are being considered, including some devolution of control. Soviet economists, who have been in the habit of slavishly following and justifying whatever policy the government adopted, are being ordered to think, to make suggestions. There are signs of a serious effort to improve matters. The problem is: To what extent can one shed deficiencies hitherto associated with the Soviet economic system, while remaining within the essential framework of that system? No doubt some improvements are possible, but it is only prudent to reserve judgement.

It may be considered certain that the annual rate of industrial growth will decline. Even the Soviet government says so: the sixth plan (1956–60) envisages increases of 10½ per cent. per annum, against the 13 per cent. claimed for the years 1951–55. Allowing for the labour stringencies which may be acute in the next few years, a small under-fulfilment seems likely, but a growth rate of 10 per cent. per annum until 1960 is quite possible, though probably at the cost of a good deal of overtime. Yet even 9 per cent. per annum means a doubling of output in eight years.

IMPLICATIONS FOR THE WEST

We are dealing with a country whose government has declared it to be its vital task to overtake the West, in total and in *per capita* output. Are we in fact in danger of being overtaken?

Any attempt to answer this question lands one in a situation of acute methodological discomfort. Not only are we dealing with hypothetical situations, subject to many unforeseeable variations, but any comparisons between Soviet and Western growth rates or aggregate production raise a multitude of insoluble statistical problems.

First, a few words on industrial *productivity*. According to Galenson's excellent study,[1] Soviet labour productivity in industry in 1937–39 was about 40 per cent. of American, and a contemporary Soviet study reached the same conclusion. Galenson rightly argues that there was little relative change by 1950. If this be so, one may surmise that Soviet productivity is now half the American and possibly is somewhere about British output per head. If the difference between

[1] *Labour Productivity in Soviet and American Industry* (Columbia, 1955).

Soviet and American productivity growth remained 4 per cent. per annum for a decade (e.g. U.S.A. + 2 per cent., U.S.S.R. + 6 per cent.), Soviet labour productivity in industry would still be roughly 70 per cent. of American by 1965, though doubtless surpassing comfortably the West-European average. This probably is the uppermost point of the range of possibilities.

In turning from productivity to production, one should bear in mind that the Soviet industrial labour force will certainly expand faster than the American. It is not only a question of a higher rate of natural increase. Until recently, despite a much larger total working population, Russia has had fewer industrial workers than the United States. This was due primarily to having so many more persons employed in agriculture, and also to more manpower in the forces, in prison and on clerical and other unskilled tasks. The Soviet authorities thus have a potential labour reserve for industry to draw on, which the U.S. and West-European economies no longer possess to anything like the same extent.

How does Soviet industrial output compare with that of the United States? No precise answer is possible. With all due reservations, let us take the figure tentatively mentioned by Hodgman, which seems *very* roughly of the right order of magnitude: that in 1950 the Soviets were 35 per cent. of the United States. Purely for illustrative purposes, let us now make the following cautious assumptions: First, that U.S. industrial production continues to increase steadily at the same rate as in 1950–55, i.e. by 24 per cent. every five years. Let us take the Soviet growth figure for the same period at the conservative figure of 75 per cent., against their own claim of 85 per cent., even though this may do them an injustice. Let us further assume that Soviet growth rates fall, so that the increase from 1955 to 1960 is "only" 60 per cent. and that between 1960 and 1965 it falls further to 50 per cent. The result is as follows:

(U.S. industrial output 1950 = 100)

	U.S.S.R.	U.S.A.	U.S.S.R. as percentage of U.S.A.
			%
1950	35	100	*35*
1955	61	124	*49*
1960	98	154	*64*
1965	147	191	*77*

The opposite table is based on assumptions which, on the whole, are favourable to the United States. Thus, it is possible that U.S. growth will not maintain for ten years the tempo applicable to the boom period 1950–55, whereas the Soviet rates indicated here cannot, on past performance and existing plans, be dismissed as unlikely. Yet it follows from the table that the U.S.S.R., though still well behind the United States, may have reached America's *present* industrial output by about 1963.

Industrial Output Statistics, U.S.S.R.

	1927/8 or 1928	1940	1950	1955	1960 Plan
Coal, including lignite (million tons)	36	166	261	390	593
Oil (million tons)	11·7	31	38	70	135
Electricity (billion kilowatt hours)	5	48	91	170	320
Pig iron (million tons)	3·3	15	19	33	53
Crude steel (million tons)	4·3	18	27	45	69
Rolled steel (million tons)	3·4	13	21	35	53
Timber (*a*) (million cubic metres)	54	119	160	197	264
Cement (million tons)	1·8	5·8	10	22	55
Mineral fertilizer (million tons gross)	0·2	2·6	5·5	9·6	19·6
Soda ash (million tons)	0·2	0·5	0·9	1·4	2·4
Machine tools (thousands)	n.a.	38	73	105	200
Automobiles, including lorries (thousands)	0·7	160 (*c,d*)	370 (*c*)	445	650
Tractors (thousands)	1·0	30 (*c,d*)	109	163	322
Grain combines (thousands)	0	13	46 (*c*)	48	140
Cotton fabrics (million metres)	2,703	3,836	3,899	5,904	7,270
Wool fabrics (million metres)	94	120	155	250	363
Silk and rayon fabrics (million metres)	10	70	125	526	1,074
Linen fabrics (million metres)	188	270	n.a.	305	556
Knitted garments (millions)	n.a.	150	n.a.	430	580
Footwear (*b*) (million pairs)	30	205	226	299	455
Clocks and watches (millions)	neg.	2·6	7·6	19·7	33·6
Radio and TV receivers (millions)	neg.	0·2	1·1	4·0	10·2
Bicycles (millions)	neg.	0·3	0·6	2·9	4·2
Sewing machines (millions)	neg.	0·2	0·5	1·6	3·8

NOTES.—The omission of small workshops seriously understates the production of certain consumers' goods, notably footwear and some homespun fabrics, in 1927/8. Figures for processed foodstuffs, though available, have been omitted because peasant processing is missing throughout the series.

(*a*) Haulage of timber, other than firewood. (*b*) Some of the later figures may refer to *all* types, though the series should be for *leather* footwear. The 1928 figure omits large numbers made by small craftsmen. (*c*) Approximations. (*d*) The 1940 output of tractors and automobiles was well below 1937 levels, owing to effects of war preparations.

n.a. Not available. neg. Negligibly small.

The U.S.S.R., then, will be an industrial giant, *the* industrial giant of the Eurasian land mass. Her heavy industry should be capable of becoming a serious export competitor. British industry will look uncomfortably small by comparison. It is a sobering thought that the *increase* in Soviet steel production planned for the next five years exceeds *total* U.K. output and that for coal nearly equals it. But Russia has a long, long way to go to catch the United States, and, as Hodgman wisely remarks, she " may find the gap between Soviet and American industrial performance increasingly difficult to close the narrower it becomes." Percentages are apt to disguise the physical magnitude of the gap, and some comparisons of specific commodities does much to redress the mental balance.

A growth rate flattering to the United States can be arrived at by basing comparisons on 1938 (better still, 1932), when there was much unemployment of labour and resources. U.S. industrial production in 1938 was over 20 per cent. lower than in 1937, and steel output fell from 51·4 to 28·8 million tons. It makes a fairer comparison, with a country where resources tend to be over- rather than under-employed, to take the relatively good year 1937 as a pre-war basis.

It is not suggested that the sample below is representative. The Soviets would make a better relative showing in heavy

U.S. and Soviet Output of Certain Commodities

	United States			Soviet Union		
	1937	1950	1955 (*y*)	1937	1950	1955
Coal, including lignite (million tons)	451	505	448	127	261	390
Oil (million tons)	179	287	346 (*a*)	30	38	70
Electricity (billion kilowatt hours)	146	388	625	36	91	170
Crude steel (million tons) ..	51	88	104	18	27	45
Cement (million tons)	20	39	46 (*b*)	5	10	22
Tractors (thousands) (c) ..	221	509	441 (*a*)	80	109	163
Cotton fabrics (million metres)	8,000	9,156	9,350 (*a*)	3,448	3,899	5,904
Radios and TV sets (thousands)	8,080	22,000	19,130	150	1,100	4,000
Private cars (thousands) ..	3,915	6,666	7,920	266	370	445
Lorries (thousands)	893	1,337	1,249			

Notes.—(*y*) Provisional figures given where available. Otherwise, the higher of the figures for 1953 and 1954. (*a*) 1953. (*b*) 1954. (c) The U.S. tractor figures exclude small " garden tractors."

machinery and (say) bread-baking. But it is salutary to record that, for instance, American electric generation increased in the five years 1950–55 by more than the *entire* Soviet production of 1955. Soviet output of cement has roughly quadrupled since 1937, but the physical rate of increase in that period has been greater in the United States by a wide margin. Even in steel, in 1950–55 the United States has very nearly kept her lead in terms of tons. Of course, on a *per capita* basis, the gap is greater still.

The gap will be much wider if one concentrates only on consumers' goods, or on the non-industrial sector of the economy. The Soviet system is not well attuned to meet the variegated needs of personal taste; quality, while it will improve, will surely remain well below Western standards. In housing, where present conditions are truly appalling, the gap cannot be bridged for generations under any conceivable circumstances. Finally, productivity in agriculture, and variety in diet, will certainly remain far below levels considered reasonable in England or America.

But these facts must be seen in perspective, before any valid political conclusions are drawn from them. Russian standards of living are no doubt well below the American and will remain so for an indefinite period, but they still make a favourable showing to " under-developed " peoples: Tashkent and Alma Ata are an impressive contrast to Tabriz, Kabul, Rangoon. To the inhabitants of these countries, Russia has the further attraction of a formerly backward country which has built a great industry with its own resources in record time. In Russia, consumer satisfaction must be measured by reference to the recent past of Russia itself, not to the unattainable standard of Iowa or Michigan. Compared with the recent past, there is a definite improvement, over low levels but still an improvement. A glance at the 1960 plan figures shows that it is to be continued.

The conclusion is inescapable: the West faces a really serious challenge on the economic front. The Russian leaders have given notice that they regard this front as vital in the world of " competitive co-existence," and it would be foolish indeed, through over-concentration on military dangers or through obstinate complacency, to disregard the facts.

London. A. Nove.
March, 1956.

The Floating Debt Problem

FEW will quarrel with Mr. Macmillan's description of the recent increase in Bank Rate as " a timely move which will reinforce the further disinflationary measures on which the Government have decided." Nor is it intended to imply the contrary in anything that follows, which is concerned not with emergency tactics but with general principles. Nevertheless, opinions may reasonably differ about the precise nature of the disinflationary reinforcement that Threadneedle Street is able to trundle up to the support of Whitehall. Assuming that the disinflationary effect of raising Bank Rate is admitted, in precisely what manner is that effect brought to bear? Does it stem merely from the psychological effect of the announcement itself? Presumably, there is something more than that. If so, is it that the higher rates commanded by short-term credit act directly as a brake upon borrowing and spending? Or does the brake upon the flow of spending stem from a contraction in the volume of bank money, which is supposed to go hand in hand with a rising Bank Rate? And if the answer comprises some combination of all these things, what is their respective importance?

BANK RATE TODAY

On the face of it, the events of 1955 did little to refute those who believe that the magic of Bank Rate has worn rather thin under present-day conditions. That is less true of the external reactions; on each occasion that the Rate has been raised we have seen an instantaneous improvement in the tone of sterling on the foreign exchange markets. At home, on the other hand, the 1955 increases were largely ignored, and not only by the businessman but even by the Stock Exchange. Perhaps that was to be expected after so long a period of disuse. Earlier generations would have entertained no doubts of the ability and determination of the authorities to curb an inflationary boom, so that the mere announcement of an increase in Bank Rate would go far towards achieving its objective, commanding much the same obedient reactions as a traffic signal. Until a fresh tradition of successful monetary management has been built up, we can no longer count upon this. The present generation of businessmen, like the man from Missouri, require to be shown.

Unfortunately, things have also happened to deprive Bank

Rate considered as a weapon, and not simply as an alarm signal, of some of its potency. The first significant change is, of course, the effect of high taxation in cushioning the impact of higher rates upon the private borrower. In the old days, it was not uncommon for Bank Rate to rise by 4 or 5 per cent. during a period of pressure. If Bank Rate operated simply by increasing the cost of borrowing, and if a rise of 2 or 3 per cent. were needed to have the same deterrent effect as a 1 per cent. rise under classical conditions, a truly classical use of Bank Rate might well imply rates in double figures.

The second significant change is that bank assets have come to consist predominantly of government obligations instead of private obligations. In former days, advances accounted for half or more than half of all bank assets. If a rise in Bank Rate did reduce the demand for advances, therefore, the impact on the total of bank money would be appreciably greater than now. Moreover the effect on the money market assets, when these too were represented by private obligations, tended to be even greater than upon advances: if London became dear relatively to other centres, bills would promptly be switched to those other centres for discount while funds would flow in for investment in sterling bills. When the Treasury bill rate rises, the British Government does not go to Amsterdam or New York for its money; and the overseas demand for Treasury bills that can be stimulated by a rise in the rate is probably small in relation to the total outstanding.

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In short, a rise in rates to the moderate levels which most people contemplate as the practicable limit may not greatly deter the private borrower, who in any case now accounts for only a minor fraction of the total bank credit outstanding. On the other hand, there is no guarantee that the government, which has the benefit of the lion's share of total bank accommodation, will react to a rise in rates in the same way that private borrowers are expected to do: namely, by reducing the amount of its short-term borrowing. Indeed, the very concept of the authorities "reacting" to a rate fixed by themselves contains an element of contradiction.

The authorities stand in a dual capacity: on the one hand they are responsible for monetary policy, on the other hand they are responsible for the financial operations of the public sector, and in particular for the structure of the national debt,

which does so much to determine the volume of bank credit. If in their former capacity the authorities consider it desirable to bring about a contraction in bank deposits, is there any necessity to push up short-term rates as an intimation to themselves, in their latter capacity, that the supply of Treasury bills should be reduced? The crucial importance of the Treasury bill under modern conditions seems to call for some reconsideration of the whole function of short-term interest rates. And it raises the question whether the classical process of creating a stringency in Lombard Street and putting the discount market through its paces as a means of bringing downward pressure to bear upon the volume of bank credit does still contribute significantly to that end.

The point at issue is crystallized by two alternative views of what was really happening in the first half of 1955. For some, the important thing is that Bank Rate had been made effective in the technical sense that the gap between Bank Rate and market rates had narrowed and the market was being increasingly put " in the Bank ". Others, who failed to see precisely what this process might be expected to accomplish by itself, felt that the important thing was that many private concerns had been induced to switch their funds from bank deposits into Treasury bills, so that the banks in turn were compelled to sell investments and the volume of bank deposits was reduced on both counts.

It is well known that the process of putting the market " in the Bank " cannot directly bring about a contraction in deposits if the banks have a surplus of liquid assets, since they will be able to restore their cash reserves by reducing the money market assets. What is not generally realized is that this is equally true if the banks' liquidity ratios are already at their minimum when the stringency is initiated.

A SIMPLIFIED MODEL

This can be demonstrated most clearly if we use a number of simplifying assumptions, including the assumption that what is in fact a continuous process of adjustment takes place in several consecutive stages. We have seen that the general impact of Bank Rate under modern conditions is attenuated by the effects of taxation in cushioning the increase in borrowing rates and by the fact that the banks' money market assets are now represented predominantly by Treasury bills. Let us therefore take the limiting case and assume, first, that the increase in rates has no effect whatever on the demand for

advances and second, that all bills discounted are Treasury bills and all money market loans are secured by Treasury bills. Let us also suppose (a very important assumption to which we shall have to return) that all Treasury bills are held within the banking system. In addition, we can eliminate some complications that have no significance in this context by ignoring the minor balance sheet items and by assuming that bank cash reserves consist entirely of their balances at the Bank of England, which in turn is assumed to have no customers other than the clearing banks and the government. If, finally, we suppose that bank deposits are £1,000 millions we are in a position to construct a simplified working model of the system. (See page 29.)

At the outset, we assume both the cash ratio and the liquidity ratio to be in equilibrium. This means that, by the kind of happy accident that does sometimes occur, the cash ratio is exactly 8 per cent., so that the cash item in the balance sheet is £80 millions. This has as its counterpart in the Bank Return an item of £80 millions of Bankers Deposits on the liabilities side and £80 millions of Government Securities (assumed to be Treasury bills) on the assets side.

The liquidity ratio is at its minimum. This we translate, as a form of shorthand, by using the figure 30 per cent. If this is the level below which the ratio is not to fall at any time it will, of course, stand at that level only in February or March —at the peak of the seasonal revenue inflow—and will rise above it at other periods of the year. Moreover, as recent events have reminded us, if the liquidity preference of the banks themselves is abnormally high, the basic figure itself will be something more than 30 per cent. However, using 30 per cent. to mean a situation in which liquidity ratios are at a minimum, it follows that the money market assets will be £220 millions, which we divide arbitrarily into £160 millions of (Treasury) bills and £60 millions of call money secured by Treasury bills. The other assets, typically investments and advances, will be £700 millions.

The liquid assets, it will be seen, are represented by £300 millions of Treasury bills, of which £60 millions are held by the money market, as the counterpart of call money, and £80 millions by the central bank, as the counterpart of cash. On our assumptions, this covers the whole of the outstanding tender issue, which in turn makes up the whole of the effective floating debt.

* * *

By hypothesis the situation (Stage I) is as favourable as it can ever be to regulation by credit policy. Let battle commence. To reduce the credit base, the central bank sells £10 millions of Treasury bills which the discount market finances by means of clearing bank call money. The consequential changes are shown in Stage II.[1] Their general effect is that the banks' liquidity ratios are unaffected but the cash ratio has been depressed to 7 per cent. with a corresponding rise in the ratio of money market assets. There has been no change in the quantity of Treasury bills in the system; the total outstanding has merely been redistributed as a result of the Bank's open-market operation.

This is clearly not a position of equilibrium. The banks have to restore their cash ratio, which they do by calling in £10 millions of money from the market, forcing the market into the Bank for the same amount (Stage III).[2] So far as the clearing banks are concerned, the situation is then exactly the same as it was at the outset. The Treasury bills that were sold in Stage II are now back in the central bank again. The only difference is that they are now pledged as collateral for special advances to the discount market.

However, the market is still in the Bank, and the question is what happens when the pledged bills mature. If these were commercial bills, of course, the funds to meet them would have to be found by customers of the clearing banks, with a consequent reduction both in bank cash reserves and in deposits. But these are Treasury bills and it is the authorities which have to find the money to repay them at maturity. Basically, the funds can be obtained in three ways: by borrowing from the central bank, by borrowing from the commercial banks, or by withdrawing cash from the public, either through taxation or borrowing.

Let us assume first (Stage IV)[3] that the maturing bills are paid off with the proceeds of fresh bills sold to the central bank. The result is that the Discounts and Advances item on the assets side of the Bank Return disappears and is replaced by an equivalent sum under the heading of Government Securities.

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[1] *Clearing Banks* Cash −10 Call money +10 Deposits unchanged
Bank of England Government securities −10 Bankers deposits −10
Floating Debt No change

[2] *Clearing Banks* Cash +10 Call money −10 Deposits unchanged
Bank of England Discounts and Advances +10 Bankers deposits +10
Floating Debt No change

[3] *Clearing Banks* No change
Bank of England Discounts and Advances −10 Government securities +10
Floating Debt No change

In other words, the figures return to those shown in Stage I. The clearing banks, which are not affected by this operation, were already in the same position as in Stage I. Hence Stage IV is in every respect identical with Stage I; we have come out by that same door wherein we came. There are still in the system exactly enough Treasury bills to support bank deposits of £1,000 millions; and the effort of the central bank to contract the credit base by pushing some of its own holding of bills out on to the market has been frustrated by the government's fresh borrowings to meet the maturing bills.

Let us consider now the second possibility, that the maturing bills are paid off by borrowing from the commercial banks. The tender issue is stepped up by £10 millions and the market finances the additional bills against clearing bank call money.[1] Starting, it will be remembered, from Stage III, the effect is that the Discounts and Advances item disappears, Bankers Deposits fall by £10 millions as the counterpart of a decline of £10 millions in clearing bank cash, offset by an increase of £10 millions in call money. But this means that the position is exactly the same as in Stage II, which as we have seen leads on to Stage III, so once again we are just going round in circles. There are still sufficient Treasury bills in the system to support

[1] *Clearing Banks* Cash −10 Call money +10 Deposits unchanged
Bank of England Discounts and Advances −10 Bankers deposits −10
Floating Debt No change

	I	II	III	IV	V	VI	VII
CLEARING BANKS	£m	£m	£m	£m	£m	£m	£m
DEPOSITS	1,000	1,000	1,000			*990*	*966·7*
ASSETS :							
Cash (B/E)	80	*70*	*80*			*70*	*77·3*
Call Money (= T.B.s)	60	*70*	*60*			60	60
Bills (T.B.s)	160	160	160			160	*152·7*
Other Assets	700	700	700			700	*676·7*
BANK OF ENGLAND (Banking Department)				(= I)	(= II)		
Bankers Deposits ..	80	*70*	*80*			*70*	*77·3*
ASSETS :							
Gov. Secs. (T.B.s) ..	80	*70*	70			70	*77·3*
Discounts and Advances	Nil	Nil	*10*			*Nil*	Nil
TENDER ISSUE ..	300	300	300			*290*	290
RATIOS :	%	%	%			%	%
Cash	8	*7*	*8*			*7·1*	*8·0*
M.M.A.	22	*23*	*22*			*22·2*	*22·0*
Liquid Assets	30	30	30			*29·3*	*30·0*

Note: items changed by comparison with preceding stage are shown in italics.

£1,000 millions of bank deposits; the fact that the market holds £10 millions too much and the central bank £10 millions too little to permit a position of equilibrium in clearing bank ratios is a trifling inconvenience that can easily be corrected by the normal process of calling money from the market. At which point, the authorities must once again face the basic question: are they going to reduce the quantity of bills in the system or not?

This question is at last answered in the affirmative in our third assumption, that the maturing bills are paid off by means of funds withdrawn from the public. At once, things begin to happen (Stage VI).[1] Once again, the Discounts and Advances item disappears; as in Stage V, bank cash falls by £10 millions but on this occasion the reduction in cash is not offset by an increase in money market assets. Hence deposits fall to £990 millions, the cash ratio to 7.1 per cent. and the liquidity ratio to 29.3 per cent. Given a 30 per cent. ratio, there are now sufficient bills in the system to support deposits of only £966.7 millions. It follows that a position of equilibrium will not be restored (Stage VII)[2] until the banks have done two things: (i) adjusted their cash ratio at the expense of the money market assets and (ii) reduced deposits by the sale of £23.3 millions of investments or the unloading of other assets.

Any assumption that the central bank seeks to resist the readjustment of cash ratios by refusing to increase the assets of the Banking Department by the requisite £7.3 millions will only start us travelling round in circles again. On the other hand, it must be recognized that this presentation has deliberately heightened the contrast between a system based on Treasury bills and a system based upon commercial paper. Even in the latter case, it is not true that the creation of a stringency would automatically reduce the volume of bills in the system by the exact equivalent of the bills pledged with the central bank by the discount market; replacement bills would be coming forward all the time. What is true is that, in the case of private paper, the mere hardening of rates would undoubtedly reduce the supply of bills coming forward by *some* amount, which might even be greater than the amount of special advances to the discount market. In this respect, the

[1] *Clearing Banks* Cash −10 Deposits −10
Bank of England Discounts and Advances −10 Bankers deposits −10
Floating Debt −10

[2] *Clearing Banks* Cash +7·3 Money market assets −7·3
Other assets −23·3 Deposits −23·3
Bank of England Government securities +7·3 Bankers deposits +7·3
Floating Debt No change

situation is fundamentally different with Treasury bills, whose issue is decided by an act of policy which may or may not be influenced by the rise in rates.

In either event, the main conclusion stands: that deflationary pressure does not begin when the market is forced into the Bank but only when the supply of liquid assets in the system is reduced.

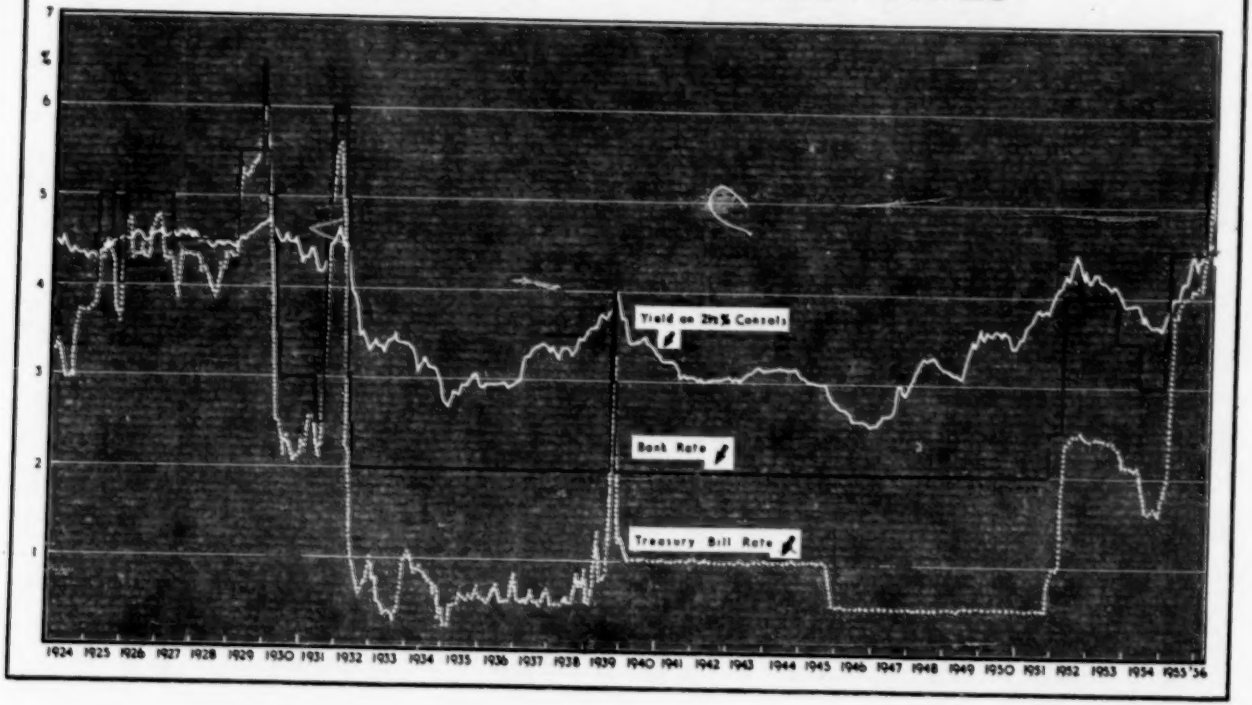
SHORT AND LONG RATES

This conclusion was admittedly reached by making a number of unreal assumptions, but assumptions whose unreality consisted, in the main, simply of carrying to their logical extreme tendencies which are acknowledged to be prominent features of our actual situation. Clearly, it raises some basic questions, of which the most obvious is the question whether high short-term rates of interest play an indispensable part in the disinflationary process at all.

In our example, it was a contraction in the available supply of liquid assets that induced a contraction in deposits. But if that is the case why push up short-term rates in the first instance? Why not *start* by reducing the floating debt, thus starving the banks of bills and compelling them to unload other assets? If this is the angle of attack short-money and bill rates, so far from rising, will tend actually to be dragged down by the intensity of competition for the restricted supply of bills. At the same time, and as part of the same process, long-term rates will tend to be forced up by bank selling of investments and (unless floating debt is redeemed out of a revenue surplus) by funding issues. This runs directly counter, of course, to the normal concept of long-term and short-term rates as part of a spectrum all the elements of which move in sympathy; and it is something of a facer for the theory which seeks to derive the long-term rate from the expected movement of short-term rates. Would not a divergence between the two sets of rates be wholly unnatural, so unnatural as to set in motion forces that would bring them together again?

To this, one answer is the appeal to experience. Any relationship between the two rates is in practice an extremely loose one. As will be seen from the chart on page 32, the margin between the Treasury bill rate and the yield on Consols has varied enormously over the last thirty years, from a negative quantity at times in the 'twenties (and again in 1956) to 3 per cent. or more during the ultra-cheap money phase. Moreover, not only has the margin varied widely but the two rates have followed a totally different pattern over long periods.

THE PATTERN OF INTEREST RATES



Further, one can perceive at least one factor operating against any tendency for short-term rates to be dragged upwards in the wake of the long-term rate. On general principles it might be thought that, if long-term capital is dear and bank accommodation is cheap, the switching of demands from the capital market to the banks would be bound to cause the short and long rates to converge again. That is not, of course, the case. An increased demand for bank advances does nothing to force up Bank Rate, on which overdraft rates are based. What it does, if the supply of liquid assets is no more than adequate, is to induce compensating sales of bank investments. It is the long rate, not the short, which takes the strain. But if the long-term market is first relieved of demands which are deflected to the banks, and as a result the banks are compelled to liquidate securities for an equivalent amount, the long-term rate also will be unaffected, if the gilt-edged and industrial markets are regarded as comprising a single market for long-term capital. In effect, the banks' investment portfolios provide a £2,000 million buffer to keep the short and long rates apart once they have diverged. That is, of course, only one aspect of the inter-connection between the short and long markets, but it is clearly an important one.

Another aspect to be considered is the influence of interest rate differentials upon providers of funds. If money can earn little or nothing when invested at short term but high rates when invested at long term, this must encourage a movement of funds from the short-term to the long-term market. More concretely, it is this combination of low short-term rates with high gilt-edged yields which is calculated to promote a movement of funds away from the banks into gilt-edged securities: in other words, to favour a funding of bank deposits. Would not this movement tend to bring the two rates together again?

This depends entirely upon the policy followed by the authorities. If the supply of long-term securities is not increased, the movement into gilt-edged will tend to bring down long-term yields; but in that case the only effect of the movement will be a redistribution in the ownership of an unchanged mass of securities and an unchanged volume of bank credit. If, on the other hand, the authorities satisfy the increased demand for long-term holdings by feeding out additional stocks to the market, then the long-term rate will not be affected. Nor is there any reason why short-term rates (including yields on short-dated stocks) need be affected by the movement out of bank deposits into securities.

Any sums which have to be transferred from the banking system to the authorities are, of course, payable in cash and in the first instance are normally paid over in that form, thus depleting the banks' cash reserves. But it is a basic principle of central banking that, if such transfers are not to cause severe dislocation, the greater part of the cash has to be returned to the system in exchange for other bank assets. We are all familiar with this process as it operates during the period of peak revenue inflow, when a large part of the revenue receipts is used to redeem floating debt: in effect, the taxes are paid over to a small extent in cash but mainly by the surrender of Treasury bills. In the event of a major funding of deposits it would be desirable to extend this principle to the surrender of short-dated bonds; of every £100 millions flowing out of bank deposits into long-term securities the authorities, if they wished to prevent dislocation, would use £30 millions to redeem Treasury bills and the remaining £70 millions to buy up short-dated stocks.

THE NEED FOR FUNDING

If the objective is to reduce the volume of bank deposits, then, this aim can only be frustrated and not promoted by a high Bank Rate and the accompanying offer of a high return to holders of Treasury bills and deposit accounts in the banks. But the case for the funding process itself is not universally accepted. Nothing is achieved, it can be argued, by a reduction in bank deposits as such; this is only a means to an end, the end being to reduce spending. Let us operate directly towards this end. Let us forget about extinguishing deposits; instead, let us leave the deposits in existence but seek to slow down their rate of turnover, holding out the attraction of a high deposit rate to induce account-holders to leave their balances unspent.

When this line of thought is followed to its logical conclusion it means that no purpose is served by having a gilt-edged market at all. It implies that the danger of inflation would be no greater if the vast sums actually held in the form of funded debt were still lying about in the banks, provided only that deposit rates were high enough. That is certainly not the principle on which public finance has been conducted hitherto, and for very good reasons. Once claims have been funded in reasonably long-term form, a rise in interest rates becomes a powerful deterrent to spending, since the liquidation of claims will involve losses on capital account.

The basic consideration is that interest, in the true sense,

is among other things a payment for the sacrifice of liquidity. The payment of interest is eminently worth while if it induces owners of claims on the national output to hold those claims in suspense; but let the postponement of claims be a genuine one. Obviously, some sacrifice of liquidity is implicit in the transfer of a balance from current account to deposit account, but the sacrifice is a very slight one indeed. If we wish to reduce the volume of liquid claims overhanging the economy, is it really good business, from the national point of view, to manufacture assets which are virtually as liquid as cash yet offer a return approaching or exceeding that on an irredeemable stock? So far from offering high deposit rates, there are surely strong arguments for keeping deposit rates low in relation to gilt-edged yields, so as to encourage a genuine locking-up of funds for appreciable periods.

Very similar considerations apply to the need to discourage non-bank holders of Treasury bills, both domestic and overseas, from converting their claims into cash. The assumption that all Treasury bills were held by the banking system was the only major departure from reality in our five-finger exercise earlier on. Obviously, nothing would be gained by funding Treasury bills if the share of the total issue available to the banks were increased by a falling-off in outside subscriptions, so that bank liquid assets were replenished as fast as they were being drawn off—the converse of the movement out of bank deposits into Treasury bills that took place in the first quarter of 1955.

Even this is not an argument for a high Treasury bill rate in the absolute sense. It seems reasonable to suppose that what induced the 1955 switching was not the rise in the Treasury bill rate as such but the rise in that rate relatively to the deposit rate. And that is something that happens only when the margin between market bill rates and Bank Rate is narrowed or the margin between Bank Rate and deposit rate widened. Normally, the two rates move in unison, so that the absolute level of Bank Rate is not the significant thing.

One can in fact argue that, crises apart, it is no bad thing for the Treasury bill rate, like deposit rate, to stand well below gild-edged yields, in order that non-bank holders interested in yield rather than liquidity may be encouraged to go longer if they wish to earn their money. On reflection, indeed, this whole problem of non-bank holdings of Treasury bills is seen to be merely one aspect of the general problem of funding, which concerns the whole mass of short-term debt and not simply bank deposits.

* * *

To what sort of conclusion does this line of thought tend to lead us? At the outset, it was pointed out that we are not concerned with emergency action. Once an inflationary boom has got out of hand, the necessary treatment probably includes a stiff rise in Bank Rate. It would seem to be a natural corollary that the first sign of an incipient inflation must call for a smaller dose of the same medicine, for a moderate increase in short-term interest rates as well as long; but that does not seem to follow at all. On the contrary, what is needed to maintain the economy on an even keel is to keep a tight rein upon the supply of money while allowing the long-term market to find its own level; and that process is compatible with an actual decline in short-term rates. Indeed, a decline in the Treasury bill rate might go far towards offsetting any addition to the cost of the long-term debt resulting from a vigorous funding policy. Of course, there may be other considerations operating against too pronounced a fall in short-term rates. At all times, short-term rates in the London market have to be kept reasonably in touch with those in other centres; but in these days even that permits of considerable latitude, since differentials in interest rates may well be offset by differentials in forward exchange rates.

For the immediate future, a situation in which Treasury bill rates stand higher than long-term yields is obviously not propitious to funding on any scale. The occasion for major policy decisions will arise when the present measures have achieved their purpose of curbing excessive home demand and swinging the balance of payments back into surplus again. At that point, it will become possible to reduce Bank Rate, while the improvement in confidence will increase the absorptive capacity of the gilt-edged market. It is implicit in the foregoing that, when it does move, Bank Rate should be brought down with a run, but that any pronounced upward movement in gilt-edged should be restrained by funding issues. That does not mean preventing any recovery at all from the present depressed levels; but it does mean preventing a recurrence of the type of gilt-edged boom that we saw in 1954.

No measure calculated to check inflation is likely to be palatable and the funding of short-term debt is no exception to that rule. For obvious reasons, the necessity for it tends to be resisted both by the Treasury and by the unfortunate holders of existing securities issued in periods of low interest rates. It is possible that with a little ingenuity—lottery bonds, index bonds—the painfulness of the process could be greatly reduced;

and if expedients of that kind are ruled out on debatable grounds of principle, it is the principles, rather than the funding, which must be deemed costly. Nevertheless, if the approach to funding is the conventional one of offering higher gross yields, this means a higher debt burden for the taxpayer and gilt-edged prices at a discount. Is there an alternative?

VARIABLE LIQUIDITY RATIOS?

One device that has been increasingly mentioned as though it were an alternative is that of compelling the banks to observe mandatory liquidity ratios variable at the will of the authorities. It is argued that this is a perfectly respectable weapon of central banking which has been found useful in some other systems and might with advantage be grafted on to our own. There has, however, been little discussion of the precise purposes to be served and the precise manner in which the system would work, so that no more than general comments are possible.

First, it is not true, as is commonly supposed, that this system is operated in the United States. The American system is one of variable *cash* ratios and Congress has firmly turned down, after prolonged discussion,[1] the request of the Federal Reserve Board that their power be extended to embrace the secondary liquid assets as well. Power to vary the cash ratio, while leaving the banks free to determine the remainder of their assets structure, including the proportion of money market assets, might strengthen the hand of the authorities in some situations but it certainly would not present them with any magic wand.

Nor is there real foundation for the widespread belief that the pyramiding process in some way places the authorities at an unfair disadvantage, that the venial sin of issuing £100 millions of Treasury bills to the banks means that £200 millions of credit will promptly be extended in other directions. Since bank cash consists either of currency or central bank credit, and since bank investments consist almost entirely of government obligations, the authorities have the benefit, directly or indirectly, of all credit extended by the banks other than their advances to private industry. Hence a compulsory raising of liquidity ratios would not in any way increase the share of bank credit going to the public sector. The only thing which can do that is compulsory limitation of bank advances; and the futility,

[1] See e.g. Patman Report, pages 123–126.

in the long run, of blowing up bank deposits while restricting advances has been demonstrated in the Macmillan Report and elsewhere. As R. V. Roosa has pointed out,[1] "Secondary reserve requirements can never be a substitute for controlling the release of central bank credit; they do not solve the main problem. . . ."

The main purpose for which such a weapon might be a convenient one for the authorities is that of preventing a secondary expansion of deposits at a time when the liquidity ratios have risen to abnormal heights. But we should be quite clear that its use for this purpose is precisely equivalent to a forced funding of Treasury bills. There are, of course, circumstances in which a forced funding is not unreasonable: for example, after a long period of war and deficit finance. Doubtless, 1951 was such an occasion. But that is where we came in. Once an abnormal accumulation of liquid assets has been skimmed off, it is surely incumbent upon the authorities so to conduct their finances that the situation does not recur. Do we really wish to enthrone as a permanent feature of our system the equivalent of a forced funding every other year? The possibilities of abuse are apparent.

On the other hand, if the object is to achieve an actual contraction in deposits, the technical merits of this device are not apparent at all. If the liquidity ratio were fixed so high as to compel the banks to reduce their earning assets, the effect would be to give notice to the world that in the immediate future the banks would be sellers of short-term securities on a large scale. Liquidation in such circumstances would inevitably be costly. The market would be glutted with a particular type of security, by definition one more suitable for the banks than for holders in general; and it would take some time for the consequential adjustments to work their way through the gilt-edged market. The end product of the process, of course, would be to leave the public holding rather smaller bank balances and rather more securities. But if that is the case, would it not be more sensible to offer in the first instance securities of a type that the general body of investors are most likely to absorb with the minimum dislocation? In other words, is there really an alternative to funding?

W. M. D.

March, 1956.

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[1] *Oxford Bulletin of Statistics*, August, 1952.

Post Office Finance

By J. Keith Horsefield

ONE hundred years ago this year the estimates for the Revenue Departments were published for the first time. They showed that the gross receipts of the Post Office were about £2·9 millions, "collected", as *The Times* said, "at a charge of 60 per cent.—a very large percentage, no doubt, if we regard the Post Office simply as a source of revenue; but it is much more . . . it is the instrument of a great public service. . . ." In 1856, therefore, although the Post Office yielded to the Exchequer a revenue equivalent to some 40 per cent. of its takings, it was already recognized that this was not its main purpose. Today the concept of its function as conducting a public service dominates its whole activities.

The Post Office today is indeed a trading department on a very large scale. Either its postal or its telecommunication activities alone would rank as "Big Business." Its 368,000 employees include 110,000 postmen and 76,000 engineers. Last year it handled nearly 10,000 million letters and printed papers and 4,000 million telephone calls. It paid nearly 650 million pensions and allowances on behalf of other Ministries. Its total cash turnover was about £4,000 millions. In its telephone service is invested about £90 millions. All these activities tend naturally to expand each year, roughly in proportion to the growth of economic activity in the country as a whole. The following table compares the increases in real terms since 1948 of certain significant indices of Post Office activities with some pointers to the economic growth of the country as a whole:

	1954 *as a percentage of* 1948
	%
Correspondence handled	118·0
Local telephone calls made	128·2
Trunk calls made	135·4
Volume of consumers' expenditure	111·3
Volume of gross domestic product	118·9
Industrial production	130

POST OFFICE ACCOUNTING

For all its activities the Post Office, as a government department, remains accountable to Parliament. Its estimates are still presented in much the same form as they were in 1856, when the series began. Provision is made for the expenditure

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incurred by the Post Office to be met out of voted monies, and not out of its revenue, which is surrendered to the Exchequer. At the end of each year a detailed record of its cash transactions is presented to Parliament in an Appropriation Account and its activities are scrutinized, like those of any other government department, by Select Committees on Estimates and Public Accounts Committees.

It has, however, been recognized for at least 100 years that this Parliamentary system of accounting is inadequate to explain the true significance of the financial activities of the Post Office. In the very first of the series of annual reports which the Postmasters-General used to render to Parliament—that for the year 1854—it was noted that the figures for expenditure given " show the expenditure appertaining to the year, not the payments actually made." Since then the unsuitability of the Appropriation Account to reveal the true inwardness of the Post Office financial results has increased. One reason is the difference between expenditures and accruals; for example, the sums charged for pensions in the Appropriation Accounts are in respect of those actually paid during the year, whereas on normal accounting principles the proper charge is the liability for future pensions accruing during the year. A second reason is that the Post Office makes no cash charge for some of the services which it renders to the government machine. Most government departments, for example, do not pay cash for postage or for counter services—such as the payment of service pensions and allowances—which the Post Office undertakes on their behalf. On the other hand, the Post Office makes in general no cash payment to the Stationery Office, nor to the Ministry of Works for maintenance, etc. Last year the Post Office spent about £20 millions, and received assistance to the value of about £10 millions, for inter-departmental services rendered without repayment.

In recognition of the desirability of allowing for such factors in its tariffs, and of making known to Parliament the true outcome of its trading activities, the Post Office has since 1912 published a second set of accounts, maintained as nearly as possible on ordinary accounting principles and known as the " Commercial Accounts." A forecast of the out-turn of these accounts for 1955–56 shows that the Post Office contributed net to the Exchequer last year rather less than £1 million. The Appropriation Accounts, when compared with the Finance Accounts, will show that, on the contrary, the Post Office cash receipts in 1955–56 fell short of cash expenditure by some

£15 millions. All that these two latter Accounts show, in fact, is the cash position of the Post Office *vis-à-vis* its banker, the Exchequer. It is on the basis of the Commerical Accounts, and not on that of the cash accounts, that the financial policy of the Post Office is determined.

"SELF-FINANCING"

Recognition that the Post Office was something different from an ordinary government department, and that its tariff policy should be actuated by commercial rather than by fiscal considerations, resulted in 1932 in a recommendation by a committee of enquiry that the Post Office should be accorded a considerable measure of independence in formulating its policies. The "Bridgeman Report," embodying these recommendations, was given statutory effect in 1933, and until the war the Post Office was itself responsible, in the main, for the level of its tariffs and for the formulation of its over-all policy. During and since the war, however, the abnormal economic conditions prevailing have made it impossible for the Post Office to act with the full freedom which the Bridgeman Committee envisaged, and it was not until last year that it became possible to formulate a new concordat with the Treasury, re-introducing all the essential features of the Bridgeman scheme. This concordat is enshrined in Appendix 2 of the White Paper "Report on Post Office Development and Finance" (Cmd. 9576). It provides *inter alia* that, while the Post Office will continue to have obligations to consult the Treasury on financial matters which raise novel or important issues or where only a limited financial power has been formally delegated (such as wages and conditions of service), the Treasury for their part will recognize the fuller measure of responsibility for the pursuit of sound financial policies which falls upon the Post Office and will direct their criticisms primarily to "objective issues."

This understanding would not, however, in itself free the Post Office from Treasury control of its policies so long as it remained under an obligation to surrender to the Treasury the whole of its surplus. The abandonment of this obligation was the central point of the Bridgeman financial recommendations, and the new concordat restores freedom to the Post Office in this respect, requiring it to pay over to the Exchequer only £5 millions each year. Since this £5 millions very broadly represents what the Post Office would pay in taxes if it were a nationalized industry, it can be said that the principle has now been accepted that the services of the Post Office should be

provided to the public at cost. Correspondingly, however, there rests upon the Post Office an obligation so to conduct its activities that, over the years, its income will cover its expenditure, including in the latter the Exchequer contribution. This obligation is now—unlike the Bridgeman recommendation—based upon the Commercial Accounts. The Post Office must therefore now earn each year enough to yield, on normal accounting principles, a contribution of £5 millions for the Treasury and such additional sums for reserve as the Post Office itself shall determine.

For the first year of this new arrangement—the financial year which is just beginning—the Post Office planned to achieve a working margin of £5 millions. It is already clear, however, that this estimate—formulated of necessity last August for purposes of the White Paper—is very unlikely to be achieved. The new pay award to postmen, which was given in December, will alone absorb approximately one-half of the £5 millions surplus budgeted for. In fact, on present expectations, the out-turn on current account for this year (1956–57) in the three main services will be as follows :

	Income	Expenditure	Surplus (+)/ Deficit (−)
	£m.	£m.	£m.
Postal	161·0	161·7	− 0·7
Telegraph	17·9	20·3	− 2·4
Telephone	158·5	155·3	+ 3·2
	337·4	337·3	+ 0·1

CAPITAL EXPENDITURE

In addition to balancing current income and expenditure along the lines just discussed, the Post Office has also to manage each year a very large capital investment programme. The size of this programme—which is expected to total some £300 millions over the next three years—is limited not so much by the capacity of the Post Office to meet the immense existing and latent demand for telephones as by the over-all economic situation, which continues to require restraint on investment. In this respect the Post Office is in no better and no worse position than, say, the nationalized industries. The deployment of resources so as to make the best use of its investment involves long-range planning, which has been exceptionally difficult since 1939, and which of necessity involves forecasting the demand for telephones for at least nine years ahead ; four years being the minimum time during which it is possible to plan,

build, equip and put into service a new telephone exchange and five years the period for which the initial equipment is planned to last without further expansion. In this, the problems of the Post Office are again very similar to the problems of the nationalized industries—for example those of the electricity supply industry, as recently discussed in the Herbert Report.

The dual system of accounting necessarily maintained by the Post Office also complicates the financial treatment of capital investment. From the cash point of view, the formal procedure is that Parliament is invited to pass about every two years a Post Office and Telegraph (Money) Bill. The latest, passed last December, authorized the Treasury to issue to the Post Office £175 millions to cover capital requirements for development. These issues are formally repaid over twenty years by charging annuities in the Appropriation Accounts. There is, therefore, no depreciation provision as such in the Appropriation Accounts and no separate charge for interest on capital. In the Commercial Accounts, however, the annuities play no part. In principle, the capital is never paid off. A depreciation fund has been set up, fed by annual provisions designed to amortize each piece of plant over its prospective life. Against this depreciation fund there are charged each year the renewals carried out in the course of the year, and the remainder of the fund is accumulated at interest to serve this purpose in future years. The interest earned is offset against the interest charged on the cumulative amount of capital so far invested.

Hitherto, the capital value of the plant, for purposes of calculating the depreciation provision, has been taken at historic cost—that is, at the total costs at the time of installation of all plant now in service. The inadequacy of such provisions in times of rapidly rising prices led ten years ago to the inclusion in the Commercial Accounts of a small additional sum taken from the telephone surplus, and this has been continued each year since. Even so, however, the annual provisions have been falling seriously short of what would be required to replace the existing telephone plant at today's prices. It was accordingly announced in the White Paper that provision should be made for depreciation of the telephone plant on the basis of current costs, and the estimates for the financial year just beginning have for the first time included such a provision. It amounts to £41·5 millions, as compared with £27·2 millions in 1954–55, on the old basis, which would have been some £29 millions in 1956–57.

PRICE INCREASES AND ECONOMIES

The rise in the costs of capital equipment, which has just been mentioned, is, of course, only one aspect of the general rise in prices that affects the Post Office. On the postal side, over 70 per cent. of expenditure is incurred in wages and salaries; including pension liability, the cost of the postal service in this respect last year was well over £100 millions. Another 17 per cent. goes in payments for the conveyance of mails by rail, sea and air. On the telecommunications side, the proportion of wages, salaries and pension liability is slightly less overwhelming than for the postal service, but it still represents some 60 per cent. of the total. Rising levels of wages have therefore a formidable impact upon the cost of Post Office services and correspondingly upon the charges made for them.

Because the Post Office is engaged in rendering a widely-diffused service, much of it involving inherently manual processes, there is less scope—particularly on the postal side—for the economies of large-scale production than would be available to a manufacturing industry working on the same scale. Nevertheless, while, compared with six years ago, current costs, taking postal and telegraph work together, are higher by some £45 millions a year, only £37 millions has been passed on to customers in the form of increased charges or subtracted from the Exchequer by way of a reduced surplus. The corresponding figures for telephones are £24 millions and £19 millions respectively.

One sphere in which technical progress has resulted in very marked economies is that of the trunk telephone service. Present-day methods of construction enable long-distance circuits to be provided at costs much below those of the trunk cables laid before the last war. Trunk traffic has recently been increasing at the rate of some 10 per cent. per year and the trunk network has been expanding correspondingly. It is, however, estimated that the present-day replacement cost of the whole service is not greater than the historic cost of all the cables actually installed so far.

The steady rise in prices which has been so marked a feature of the post-war years has presented the Post Office with a series of difficult problems in adjusting its tariffs to match these increases. Because the incidence of rising costs falls differently in different parts of the service, it is not necessarily appropriate to increase charges by a flat rate. Accordingly, an increasing effort has been put in recent years into ascertaining the actual costs of different parts of the service in order that tariff policy may be framed in accordance with the facts.

TARIFF PRINCIPLES

Certain main principles govern all tariff decisions. The first and most obvious is that, over-all, the tariffs imposed must bring in an income adequate to cover expenses. Secondly, within this general principle, it has been the unwritten rule that the postal tariffs should cover the costs of the postal services; and, since 1939, that telephone and telegraph tariffs together should cover the costs of the telecommunications services. (The problem of making the telegraph service independently viable has so far proved insoluble; this is further discussed below.)

Considerably more difficult problems arise, however, when one enquires how far the separate parts of the service should be self-supporting. Is it desirable, for example, that the charges for printed papers should cover all expenditure on handling them; or is it sufficient for the full-rate postal tariffs to yield enough surplus on letters to cover a deficit on printed papers? Similarly, in the telephone service, the decision has to be made whether the charges made for the use of call-boxes should suffice to cover all expenditure incurred on them—including in particular the high cost and small yield of call-boxes in remote areas—or whether they should be subsidized from the general use of the system. Again, since the facilities available to subscribers are necessarily part of a comprehensive system, the question may be asked whether it is necessary for the charges for rentals, local calls and trunk calls each to cover exactly their appropriate shares in the total costs.

Quite apart from the difficult questions of policy which are posed by such problems as these, the Post Office is faced with several administrative difficulties in attempting to obtain close equivalence between the costs of and the income from its separate services. One factor to be considered is the possibility that for certain services a "promotional" tariff may be desirable. An example of such a tariff is the free telephone calls allowed to residential subscribers, which were originally designed to encourage the use of the telephone. For new subscribers the promotional element may still serve a purpose, but not only does the concession reduce income, it also increases expenditure by adding—however slightly—to the complexity, and therefore cost, of preparing telephone accounts. The problem which always has to be faced in connection with any new service is whether a concession of this kind will be worth while, even though it necessarily involves for the time being a deficit on the service in question; and if so, how long it should be continued.

A different kind of problem is posed by the fact that many tariffs are inter-related. For example, the charges made for the conveyance of printed papers have to be fixed with due regard to the charges for letter packets. The lower charge for printed papers than for letters is an example of a tariff which has a beneficial effect on costs by spreading the load ; the handling of some printed papers can be deferred until out of peak hours for postal traffic. But if the tariff for printed papers approaches too closely that for letters, the tendency will be for less use to be made of the printed paper rate, and for traffic to be diverted to the full rate, with a consequential increase in the peak of the latter. On the other hand, if the charge made for printed papers is too far below that for letters, not only will the income from printed papers be adversely affected, but there may be a tendency for some matter now sent at the full rate to be transferred to the printed paper rate, with a further loss on postage yields generally.

Similarly, the charge made for registration has to pay regard to the charge made for money orders, since one alternative to sending money in a registered letter is to buy and transmit a money order for the amount involved. Most broadly of all, of course, the charges made for letters, telegrams and telephones in general are all competitive, since they represent three different methods of communication. None of them can be altered without some regard to the possible effect upon the traffic of all three.

Finally, there are certain classes of traffic where the smallest possible change in the tariff can produce a quite large increase or decrease in income. The outstanding case is the two-ounce letter, where it is calculated that an increase in the charge from 2½d. to 3d. would produce additional revenue amounting to £9 millions. Such discontinuity in the growth of yield hampers attempts to match charges smoothly to expenses.

When facing, therefore, the policy question whether the charge for an individual service should be sufficient to cover the cost of that service, regard must be had to the administrative difficulties just outlined. When that has been said, however, the economic criterion of Post Office policy is that, so far as is feasible, every part of its service should be viable. It is accepted as generally right that the charge made for the use of any of the resources of the Post Office should be sufficient to cover the costs incurred in providing that service.

LIMITATIONS ON FREEDOM OF ACTION

Just because it is a government department, however, the Post Office is not wholly free to pursue to its logical conclusion this economic argument. The Herbert Report, in an interesting passage, criticized the Electricity Boards for confusing their responsibilities as producers with the responsibilities of the government for " the national interest." The report argues that in an industry such as electricity supply, where there has been a clear organizational divorce between the formulation of policy—by the Minister of Fuel and Power—and the execution of policy—by the Nationalized Boards—it is the duty of the latter to concentrate, except where otherwise directed by the Minister, upon running the industry as an economic concern, and making it pay. In the Post Office, however, there is no such organizational dichotomy. As a government department, its actions necessarily directly reflect government policy. It has, for example, to shape its course in accordance with the long-standing government acceptance of the view that all the inhabitants of Great Britain have an equal right to a postal delivery, no matter in what remote part they live. It has also to implement government policy that a due share of telephone expansion shall take the form of connecting-up farmers and others living in scattered areas, despite the greatly increased costs of such connections compared with those necessary to give telephone service to town-dwellers. Equally, the freedom of the Post Office to shape its tariffs to match costs has to be exercised within a similar framework of government policy ; it is not free, for example, to charge more for conveying letters to remote parts than to the other side of London.

A second example of the way in which the operations of the Post Office necessarily conform to general government policy is the favourable treatment given to printed papers and in particular to those destined overseas. At the present time the Post Office loses some £5 millions a year on handling printed papers ; for overseas traffic the loss very considerably exceeds the total income earned. If overseas printed papers were to be viable alone, the tariff would have to be approximately 2½ times its present level. Historically, the purpose of the cheap rate is to foster the dissemination of cultural and educational material. It is also necessary to consider the overseas distribution of catalogues, samples and advertising matter generally. The Post Office's need to balance its accounts must pay regard to government policy to foster exports, but there are, of course, limits to the extent that this consideration can influence postal tariffs.

A third example is to be found in the preference given in tariffs to newspapers compared with ordinary printed papers. This preference stems from governmental concessions, dating back to the 17th century, to facilitate the distribution of news to the provinces. At the present time the revenue which the Post Office derives from the transmission of inland newspapers is just over £1 million a year, whereas the cost of the service is about £2½ millions. As in the case of overseas printed papers, therefore, the charge for newspapers would have to be about two and a half times its present level if the service were to break even.

One more type of restriction on the freedom of the Post Office to set its tariffs may be mentioned. There are certain facilities, such as registration and the money order services, which fill a public need for persons without banking accounts. Both these services are at present run at a considerable loss to the Post Office, but in deciding how far such a loss could be justified, the needs of people having no other means of transmitting money have particularly to be considered. The cost of the registration service is about £6 millions and the income from it less than £3 millions; so that it would be necessary at least to double the charges in order completely to balance income and costs for this service alone. So far as money orders are concerned, there has traditionally been a readiness to accept a loss on the money order system so long as it is covered by a surplus on postal orders. Thanks largely to the volume of postal orders used for the purpose of the pools, this position still stands, although the margin on the two services together is now no more than £100,000. Again, however, the money order service, if it were to stand on its own feet, would require charges to be levied at a level nearly twice that now prevailing.

TELECOMMUNICATIONS PROBLEMS

So far as the telephone service is concerned, the problem of call-box charges, which has already been briefly mentioned, involves considerations closely resembling those just discussed. The call-box is often regarded as offering something approaching a social service. It is " the poor man's telephone," and is also of particular use in remote areas, where it may offer the only means of emergency communication. For that reason the charges made for the use of call-boxes have tended to be kept down. But at present the Post Office loses some £3½ millions a year on call-offices (including the cost of maintaining and amortizing them, and of handling calls made from them). A minimum charge of over 4d. would be needed to make them pay.

A different kind of problem is presented by the traditional differentials between telephone rentals in London and in the provinces, and between those paid by business subscribers and by private subscribers. These differentials resulted, until last January, in business subscribers in the provinces, and residential subscribers throughout the country, paying rentals which were inadequate to cover the cost to the Post Office of maintaining their telephones in service. The differentials were in origin promotional. But they also reflected the fact that subscribers in London were given facilities to make untimed calls at minimum rates over a much greater distance than provincial subscribers. Similarly, one justification for giving residential subscribers a lower rental than business subscribers was that their traffic is more evenly spread throughout the day and night, and therefore does not contribute as much to the peak hours of the service, with its consequential demands for peak levels of staff. The spread of automatic working has, however, diminished both these economic justifications.

When, therefore, tariffs were reviewed last year, it was realized that the time had come when the differentials must be at least reduced. But the effect upon a provincial residential subscriber of an attempt to equate the rental of his telephone to the cost incurred by the Post Office in providing him with telephone service would have been extremely severe. For an exclusive line, the rental would have had to have been slightly more than doubled; for a shared line, the new rental would have had to have been nearly two and a half times that hitherto charged. In consequence, the tariff changes introduced from last January were designed only to reduce, and not to remove, these differentials. The largest increase in rentals was imposed upon provincial residential subscribers; the smallest upon London business subscribers. The situation now is that in London, and in the four large cities which constitute an intermediate group between London and the provinces, the rentals charged cover costs. In the provinces they still do not do so, although the loss to the Post Office in respect of each line has been approximately halved. In total, rentals still fail by some £8½ millions to cover Post Office expenditures properly charged against them; and the situation remains that the rentals charged are lowest in the provinces, although telephones there are more expensive to provide and maintain than in London or the four large cities.

Despite the limitations suggested by the foregoing discussion, it is possible to envisage that at some future date each of the services named might (or at least, if government policy

was so formulated, could) be self-supporting; but the problem of telegraphs has so far proved insuperable. It is a fact that never since 1870 has the British inland telegraph service covered its costs. In 1953–54 the deficit on inland telegrams was reported to the Select Committee on Estimates as being about £4½ millions. Revenue was falling because of the increasing penetration of the telephone, and expenditure was rising. The Post Office concluded that there was no possibility of tempting an adequate expansion of traffic by reducing rates. After considering various alternative proposals, it doubled the charge per word, introducing at the same time an overnight service at the tariff then being charged for normal service. It was expected that as a result traffic would fall by 30 per cent. and that the deficit would be approximately halved.

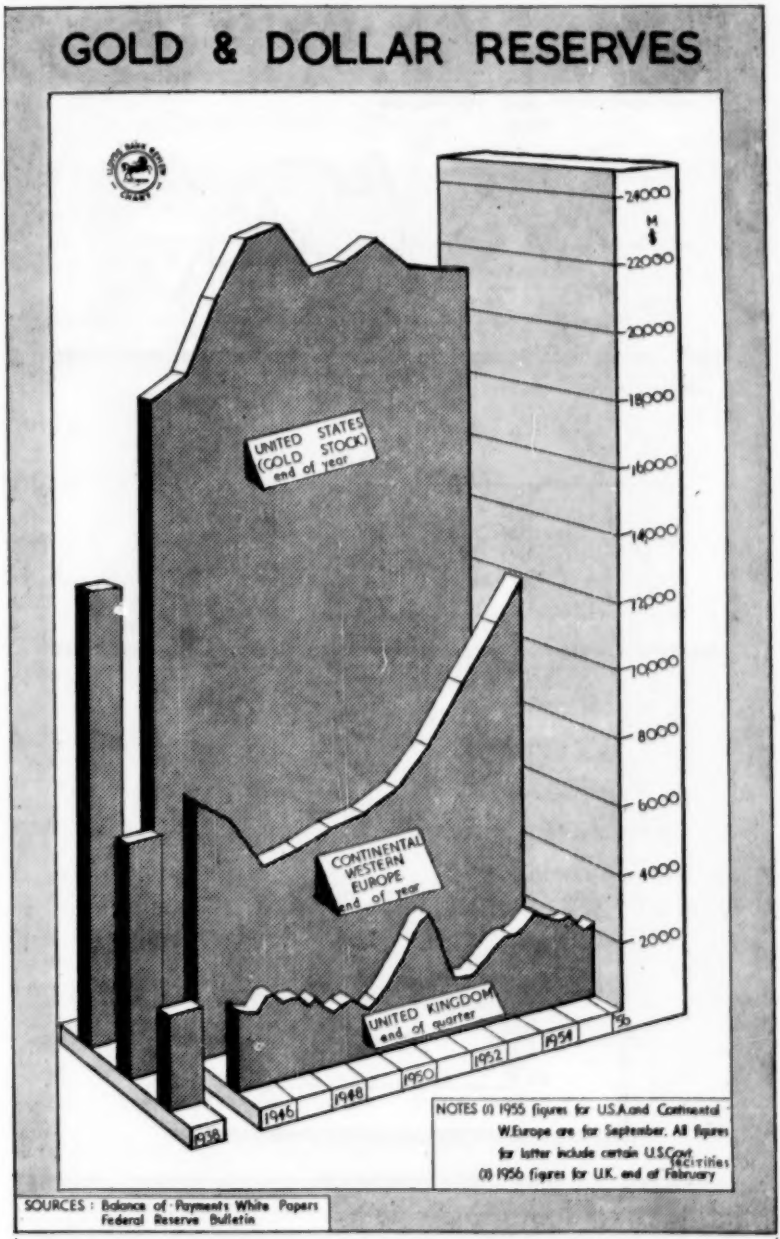
In fact, while the decline in traffic in the first year was as expected, increases in wage-rates added to costs. Moreover the volume of traffic has continued to fall, and there is at present no end in sight to this decline. At the present time, the income from inland telegrams is just under £4 millions a year and the deficit is just over £3½ millions. There seems no prospect of discovering any tariff which would enable income to equal outgoings, and if the service were considered purely on a commercial basis, there would be no alternative to closing it down. But telegrams are still extensively used by the business community and they also render an essential social service—to take only one example, they remain the only practicable means of communicating in an emergency with someone who is not on the telephone. In all the circumstances the telegraph service will no doubt continue to be required, and it is not unreasonable that the loss which it entails should be borne by the users of the telephone.

CONCLUSION

Such examples as have been given of the difficulty of adjusting Post Office tariffs so that each separate service may be self-supporting do not, however, invalidate the principle that " prices charged should be economic and related to cost." This enunciation of policy in the White Paper published last year is an essential part of the Post Office objective to show that it can run its services with enterprise and economy, and to promote better understanding by the public of the commercial basis of its activities.

J. KEITH HORSEFIELD.

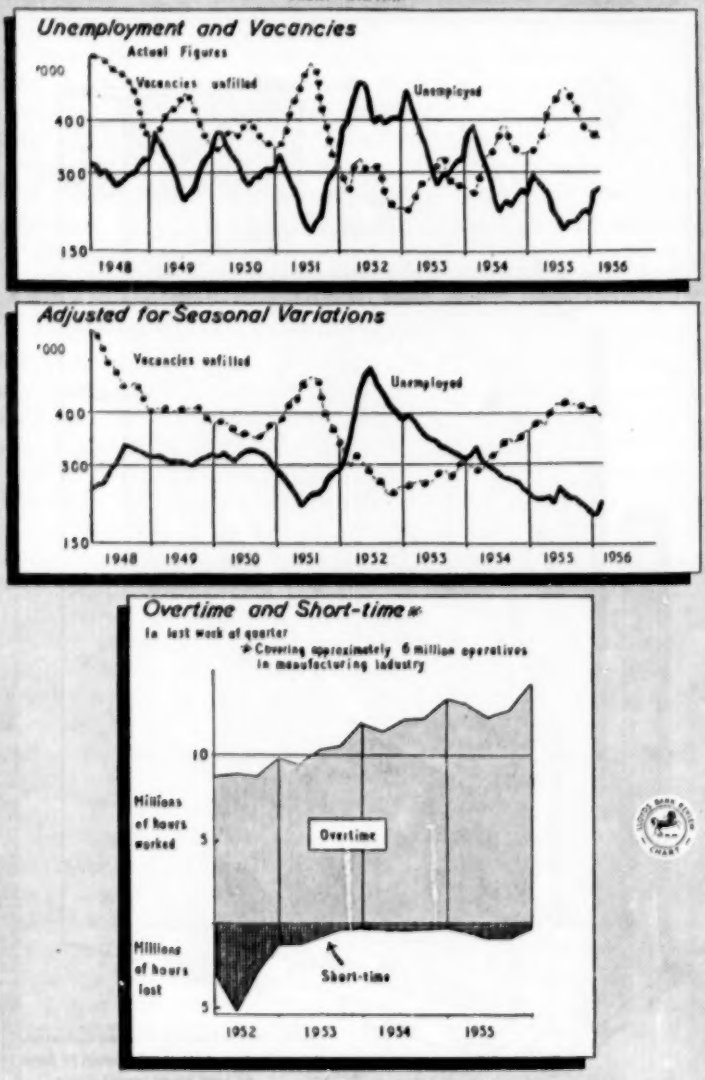
London.
March, 1956.



Since 1951 both the American gold reserve and our own have declined on balance; by contrast, Continental Europe has been amassing gold rapidly.

EMPLOYMENT

GREAT BRITAIN

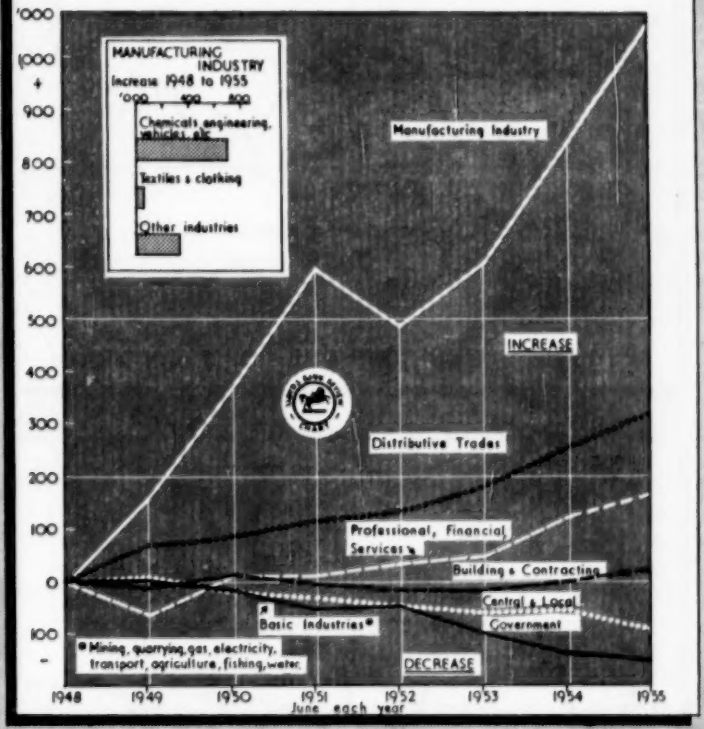


SOURCE: Ministry of Labour Gazette

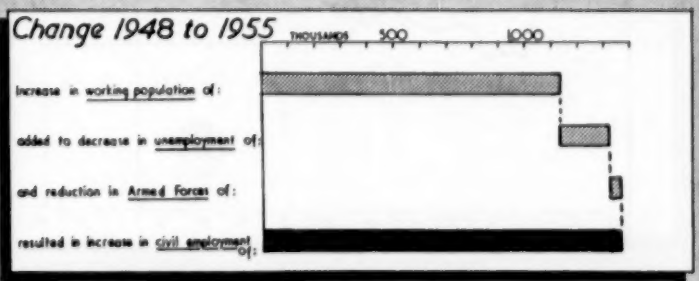
Adjusted for seasonal variations, there has been an almost continuous fall in unemployment since June, 1952; the latest figures, however, show a slight increase.

MANPOWER

Civil Employment : Changes since 1948



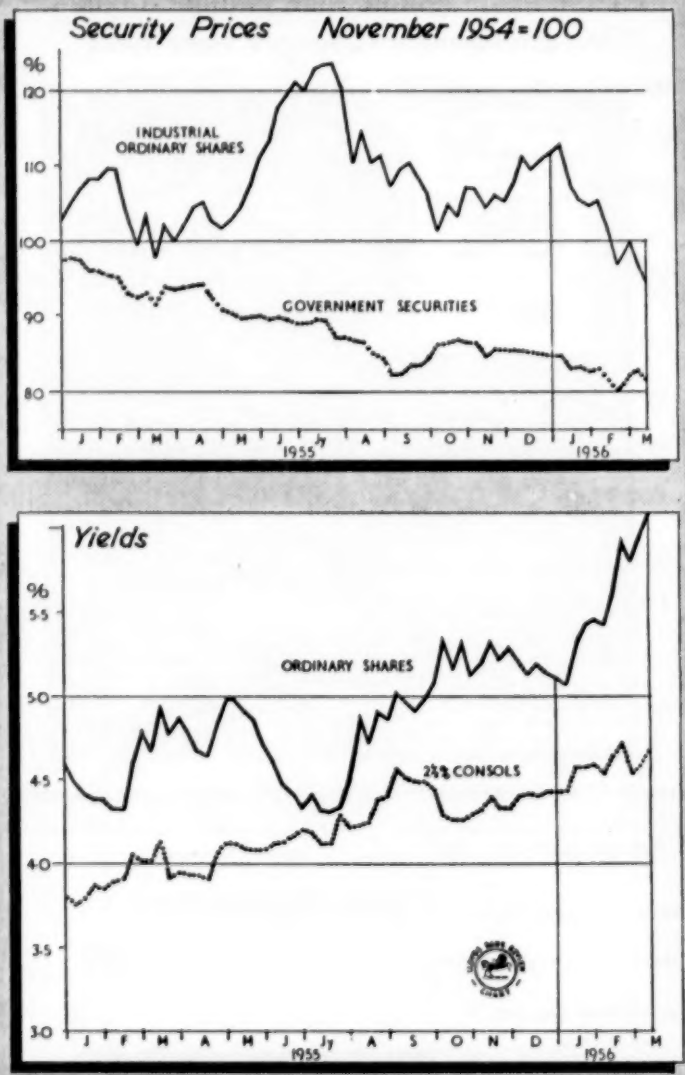
Change 1948 to 1955



SOURCES: Annual Statistical Abstract. Ministry of Labour Gazette.

Between 1948 and 1955 the labour force in manufacturing rose by about a million, nearly 700,000 going to the chemicals-engineering-metals group. On the other hand, there were fewer in " basic industries " and in public service.

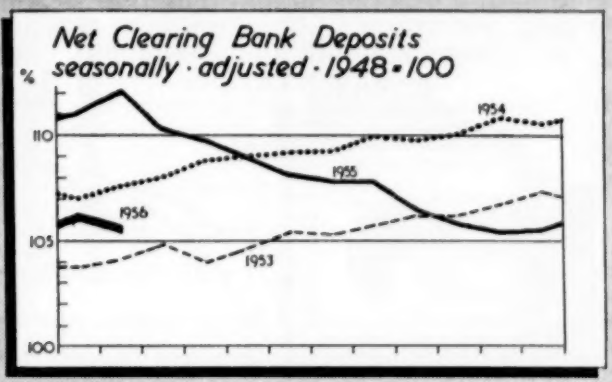
SECURITY PRICES & YIELDS

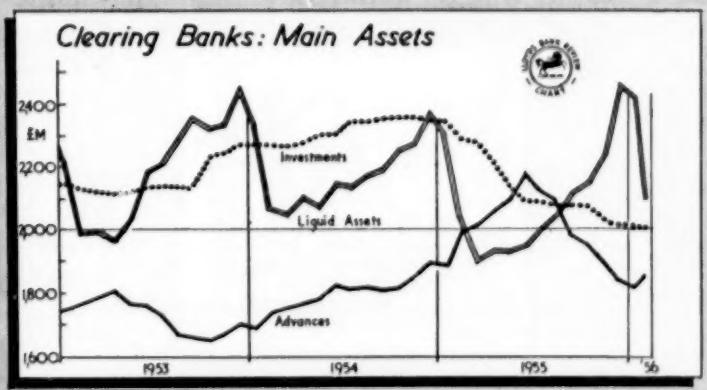


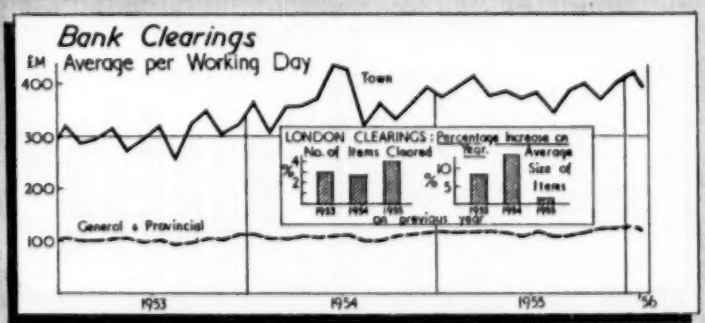
SOURCE: Financial Times

In July last year, when prices of industrial ordinary shares reached their peak, yields on ordinary shares were scarcely higher than on 2½ per cent. Consols. Since then, however, the gap between the two has widened again.

BANKING

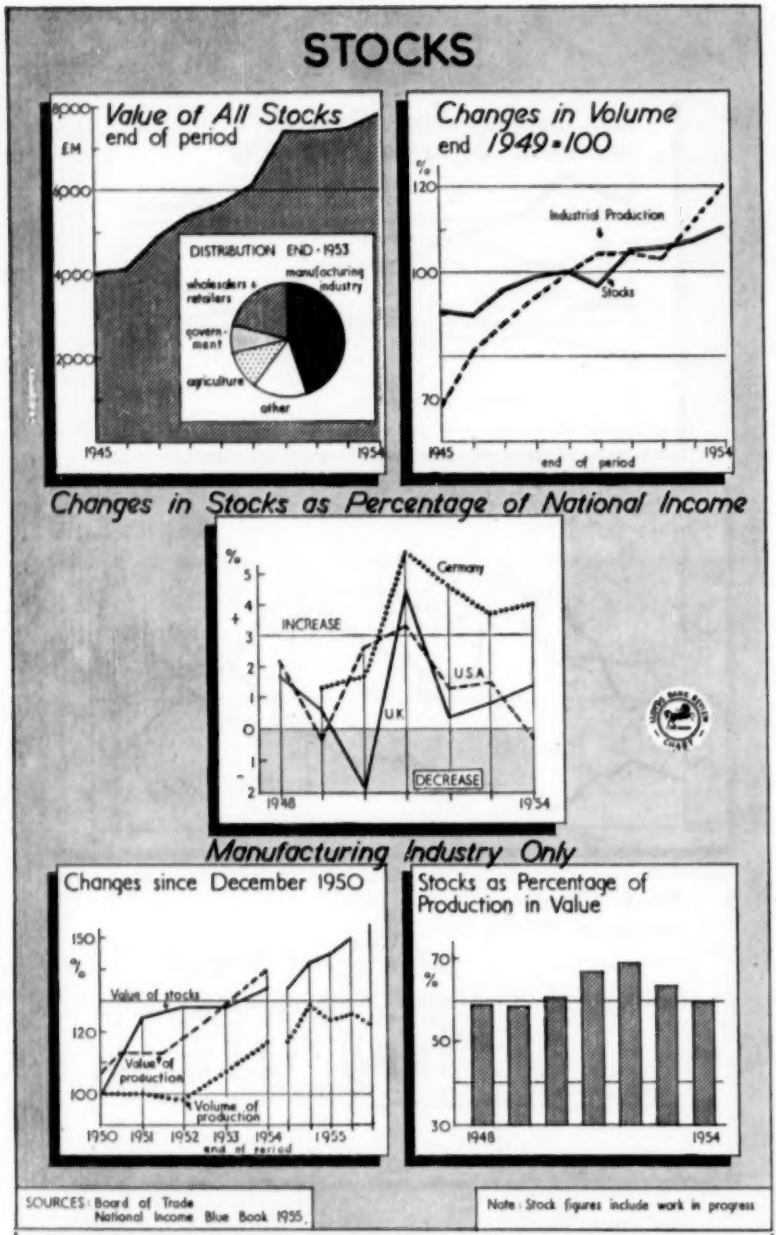






SOURCES: Committee of London Clearing Bankers
Bankers' Clearing House

In February, Lloyds Bank's index of clearing bank deposits (adjusted for seasonal variations) was approximately 6½ points lower than a year earlier and at about the same level as in mid-1953. Advances had fallen by £321 millions from the peak touched last June.

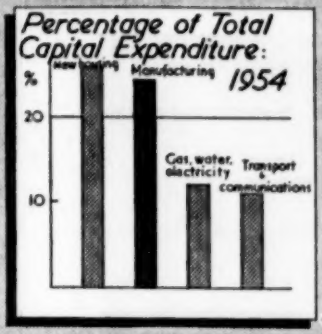


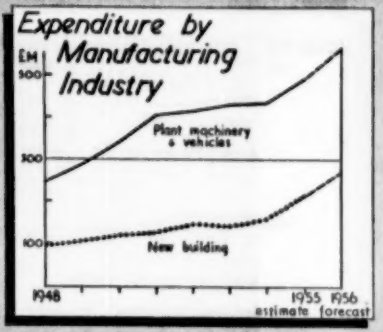
SOURCES: Board of Trade
National Income Blue Book 1955.

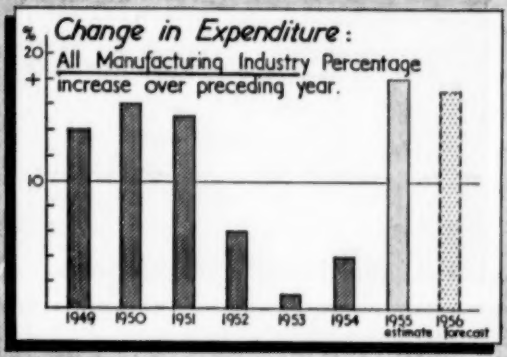
Note: Stock figures include work in progress

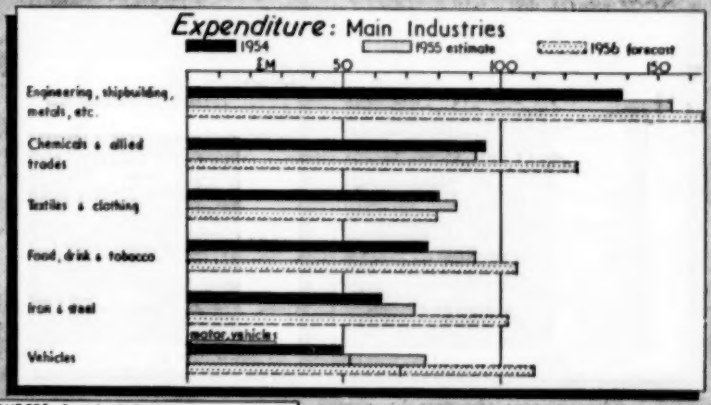
According to *Board of Trade* estimates, the value of stocks held by manufacturing industry last September was 12 per cent. above the end-1954 level and half as much again as in December, 1950. It appears that such stocks have tended to average about 60 per cent. of the value of manufacturing output.

CAPITAL EXPENDITURE





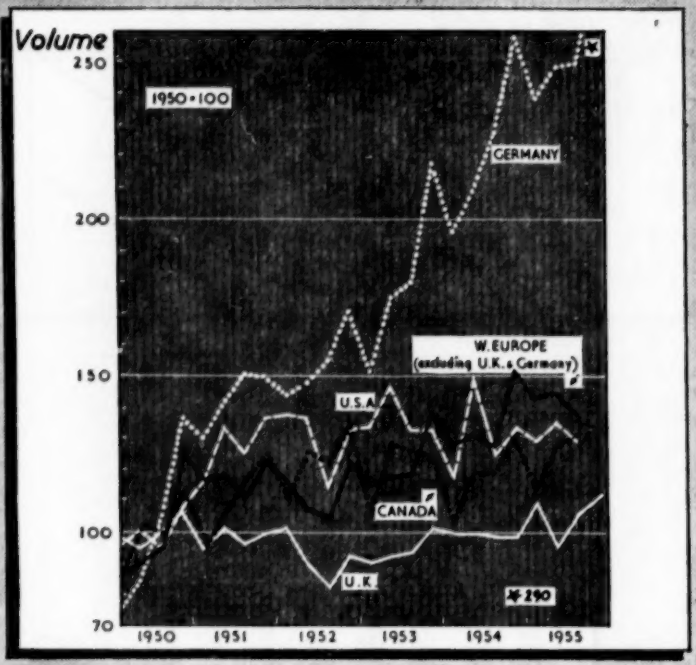


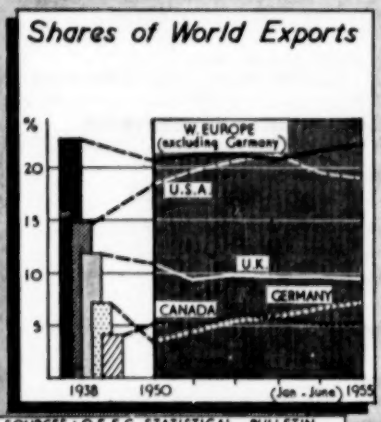


SOURCES: Board of Trade
National Income Blue Book 1955

Forecasts made last year suggested that capital expenditure by manufacturing industry in 1956 might rise by 17 per cent. in money terms, about the same increase as for 1955. Recent measures to restrict investment, however, may cause this to be an over-estimate.

EXPORTS





SOURCES: O.E.E.C. STATISTICAL BULLETIN
U.N. STATISTICAL BULLETIN

Our volume of exports has shown no marked expansion over the last five years, in contrast to the impressive increase achieved by Germany and the upward trend in the exports of the rest of W. Europe. Our share of world exports is now somewhat less than pre-war.

COINS OF THE REALM:

Half-crowns minted
from captured silver

Illustrated by permission of the Trustees of the British Museum.

Actual size: 34 mm. diam.

Prize money

IN THE MIDDLE AGES coins often bore an inscription denoting where they had been minted. Later, such emblems as the Elephant and Castle, the mark of the old Africa Company, showed where the metal had been obtained. This custom took another form in the eighteenth century during which silver became scarce. Such pieces as the two half-crowns above were coined only when bullion arrived from fortuitous sources. Vigo, engraved on the Queen Anne piece, refers to silver captured at the battle of Vigo Bay, 1702; Lima, on the George II piece, to the £500,000 worth of Spanish treasure brought back by Anson from his voyage round the world in 1744.

LLOYDS BANK LIMITED

At Lloyds Bank we do not claim numismatic authority: for the material of this series we have consulted the Department of Coins and Medals of the British Museum. As bankers, we do claim to have at the disposal of our customers, private or mercantile, a great deal of specialised skill and experience.

CAUSTON
LONDON